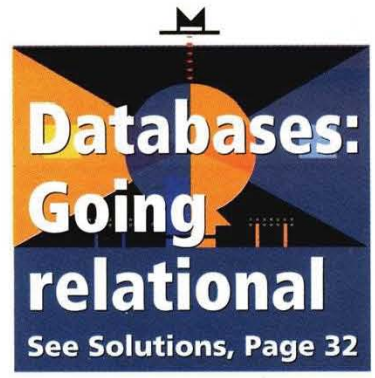
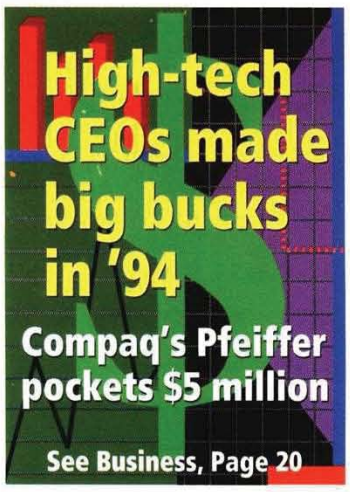
MacWEEK

05.29.95 | *The Newsweekly for Macintosh Managers* | VOLUME 9 NUMBER 22





Inside Apple's PCI Macs

Digital video to jump on board

By David Morgenstern

Apple's release this summer of the Power Macintosh 7500 and 8500 will bring professional digital video features to the out-of-the-box Mac. According to sources, the models will offer users near broadcast-quality video.

The 8500 will provide the highest level of on-board video, including input and output ports for composite and S-video formats. Aimed at video editing, sources said, the machine will feature a dual video-channel architecture that lets the second video channel either mirror the primary RGB display or carry an alternate signal, such as from a VCR or TV tuner.

The lower-priced 7500 will offer video input only. Both mod-

See Video, Page 72

First wave of 604s to start below $4K

By Robert Hess

The Age of Mac PCI is about to begin. Starting next month, Apple's first PCI family, code-named Power Surge, will take Power Mac performance to the next level.

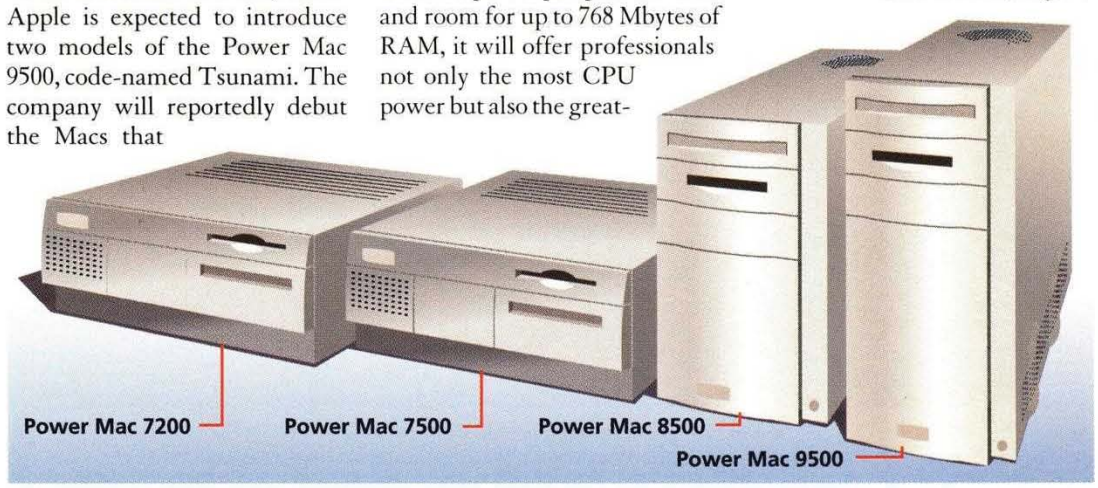
▶ **Power Mac 9500.** On June 19 Apple is expected to introduce two models of the Power Mac 9500, code-named Tsunami. The company will reportedly debut the Macs that week, then show them publicly at PC Expo in New York.

The 9500 was designed specifically for pre-press and digital-video users, the same customers who made the flexible Quadra 950 a highly successful product. With copious peripherals slots and room for up to 768 Mbytes of RAM, it will offer professionals not only the most CPU power but also the greatest number of expansion options, sources said.

Two configurations of the 9500 will be offered, both based on the PowerPC 604: a 120-MHz version with prices starting at roughly $4,000 and a 132-MHz model for $4,600 that sources said is "a screamer."

As with all models in Apple's

See PCI Macs, Page 70



Blyth drafting object-based Omnis sequel

By Clifford Colby

Blyth Software Inc. is preparing major upgrades to Omnis 7, its multiplatform client-server development system, that will expand the tool's SQL-access capabilities and add object-oriented programming features.

MacWEEK has learned that the Foster City, Calif., company is planning a series of upgrades, beginning with Version 4.0 this fall. According to sources, the feature set is not frozen, and many capabilities slated for Omnis 7 4.0 may crop up in releases next year.

Sources said the company will improve Omnis' database connections with native APIs for Informix Software databases and hooks for Open Database Connectivity drivers. Omnis 7 3.0 has links to Microsoft SQL Server, Oracle7 and Sybase SQL Server and uses Data Access Language.

Blyth reportedly intends to strengthen Omnis' database-access capabilities by dropping its

See Omnis, Page 72

OpenDoc enters fray

By Stephen Howard

The invitations have been sent out, and now Apple is waiting for developers to R.S.V.P. on OpenDoc. The release this month of the feature-frozen API has given developers a real chance to assess the component-software technology.

"When OpenDoc is ready to go, we will be there to support it," said Frank Sessions, a spokesman for WordPerfect, the Novell Applications Group of Orem, Utah. He cautioned, however, that WordPerfect 3.5 for the Mac, due in mid-July, will not include OpenDoc because the development tools are not ready.

"We definitely intend to make Nisus Writer a container," said Ryland Madison, product manager at Nisus Software Inc. of Solana Beach, Calif. He said the company expects to "spin off the very Nisus-unique tools as parts," such as a universal search engine, and create new parts.

Santa Clara, Calif.-based Claris Corp. expressed strong interest but declined to specify the scope and timing of its OpenDoc plans. "We intend to take a leadership role in making it huge," said Claris spokesman Steve Ruddock. "[ClarisWorks] is a logical first choice, but we're looking at it across everything we do."

See OpenDoc, Page 70

Microsoft will not focus on Visual tools for Macs

By Clifford Colby and Stephen Howard

Macintosh users' longing for cross-platform versions of Microsoft Access and Visual Basic will remain unfulfilled.

Although the company this year plans to bring to the Mac one key tool that will provide users with OLE controls, Microsoft said two other popular OLE-aware development tools will not reach the Mac in the foreseeable future.

John Sigler, product manager for Visual FoxPro, said Microsoft will ship a Windows version in several weeks and deliver a Mac version by year-end.

Sigler said Visual FoxPro has been redesigned as a true graphical user interface development environment. With previous FoxPro releases, "we certainly got pounded in the press for saying that we just took a DOS application and moved to Windows and moved to the Mac and that was it," Sigler said. "That's not what happened with Visual FoxPro."

See Visual, Page 72

Microsoft speaks

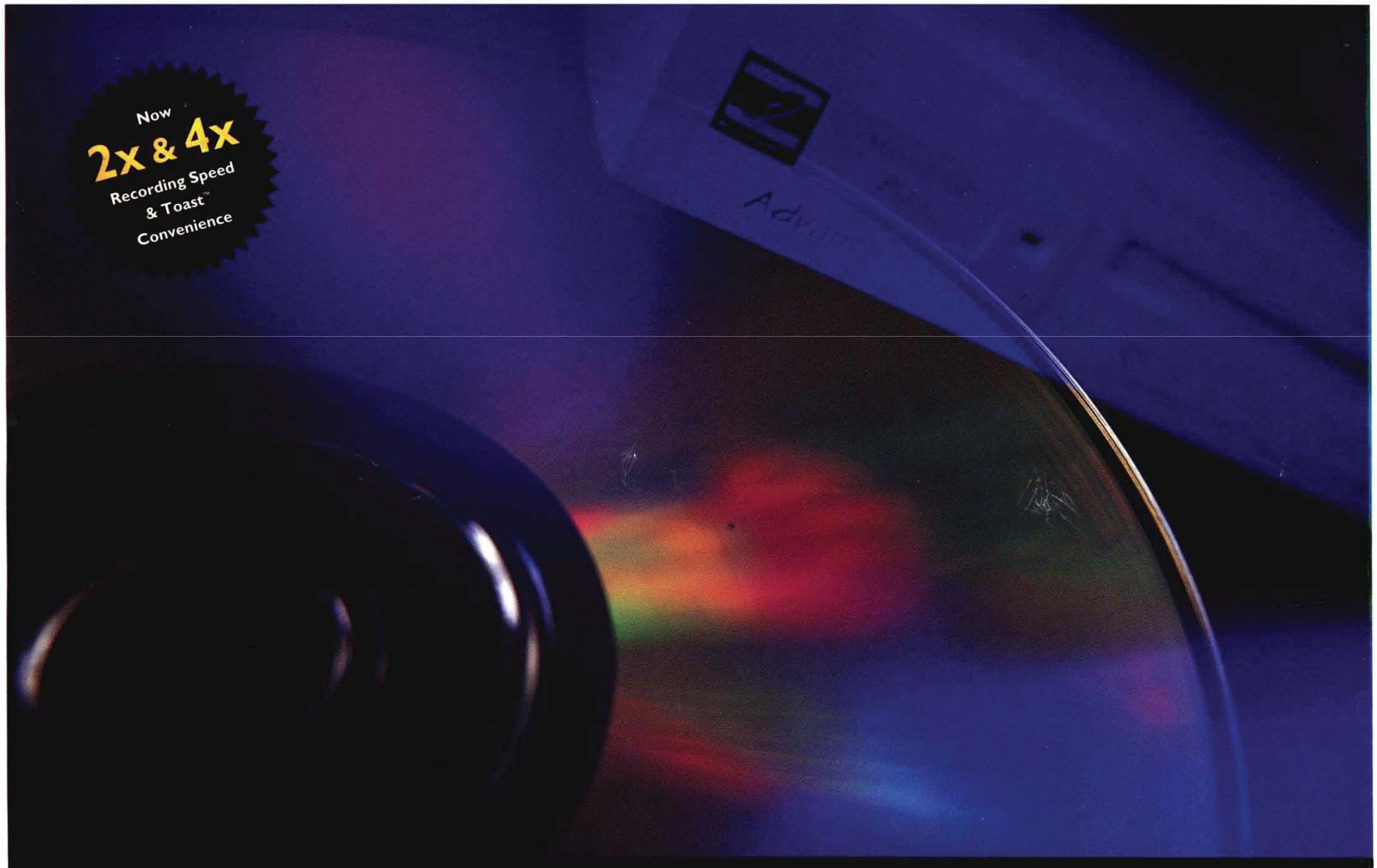
▶ **"Visual FoxPro is going to come out on the Mac by the end of the year. It's been totally reconstructed to be a GUI development environment."**

▶ **"In the next year or so, you won't see Access on the Mac."**

▶ **"You can make an argument for Visual Basic; at the same time, we've got limited resources."**

—John Sigler

NEWSPAPER SECOND CLASS



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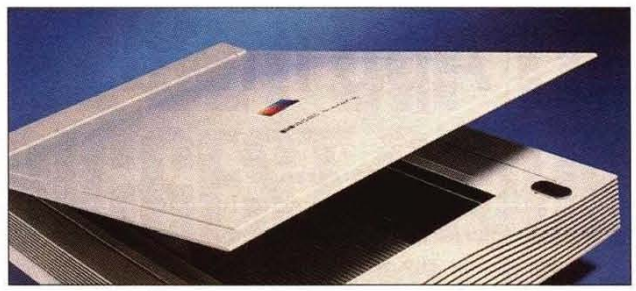

Hewlett-Packard's ScanJet 3c replaces the ScanJet IIcx and adds a faster engine. See Reviews, Page 28.

In search of lost icons on the desktop. See MacInTouch, Page 33.

Measure for measure: Spectrophotometers Mac users can afford. See GA, Page 10.

Lotus details plans to bring the worlds of groupware and messaging together by integrating cc:Mail and Notes. See Gateways, Page 16.

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A somewhat limited flat-file database is easy to learn and use, while a relational database offers flexibility, efficiency and growth.

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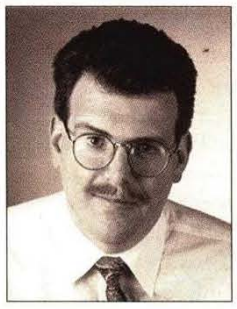
MACWEEK INSIDER ANDREW GORE

Grokking the fullness

Ah, those three little words that mean so much to those of us at MacWEEK: "according to sources."

This week Robert Hess and David Morgenstern treat us to a comprehensive look at this summer's crop of PCI-based Power Macs. After many months of tantalizing glimpses, these articles neatly summarize a slew of preceding stories and add in the finer details, such as target pricing and configurations, necessary for Mac managers to start making purchasing plans.

It has been a tough year for me, watching my friends and associates join in the Power Mac game while I sat on the sidelines like the 68K water boy warming the bench. I'm a holdout, not because I thought the 6100, 7100 and 8100 weren't good machines, but because I knew deep down in my heart that they were just the pregame entertainment. Just one more iteration, I believed, and Apple would bring the whole Mac architecture out of the NuBus-hobbled past into the fast and wide, video-enabled, PCI-compliant present.



But enough about my daydreams. The PCI Macs are almost here and, from the looks of things, will start to fulfill the promises Apple made the first time company executives uttered the word "PowerPC."

Those familiar with the upcoming Power Macs will notice several important changes — faster processors, wider data paths, fully blown Descriptor Based Direct Memory Access, fast internal SCSI, and replacement of the slow and proprietary NuBus with the 98-Mbytes-per-second data-streaming power of PCI. Other niceties, such as both 10BASE T and Apple AUI (attachment unit interface) Ethernet connections on the back panel, are just the kind of extras we've come to expect from Apple.

The six-slot 9500 heralds the return of choice for users who want to configure their workstations themselves and not get stuck paying for the factory extras. The 7200 does a nice job of bringing the price of PCI down to where almost anyone can afford Apple's new bus. Both of these machines could prove to be the basis for some interesting innovation among the Mac's growing clone contingent.

On the Power Mac 7500 and 8500, users will notice another interesting change — the addition of near-broadcast-quality digital video to the logic board. Just drop your compression chip of choice into the digital audio-video slot, and you've got a fully integrated video workshop that can rival the best third-party solutions. If I'm not able to produce Star Wars on my desktop with the 7500 I'm planning to buy, it'll be because of a lack of talent, not technology.

The PCI Macs come close to what we all hoped *real* Power Macs would be.

Taken as a whole, the PCI Macs come close to what I think we all hoped *real* Power Macs would be. They put Apple back on the leading edge of hardware innovation and form a solid foundation on which to construct the modern Macintosh OS, which the industry got its first peek at earlier this month.

In fact, looking at Copland and now the 7200, 7500, 8500 and 9500, it seems Apple really has gotten a somewhat belated clue about what buyers really want — a Macintosh that exceeds the functionality and interface standards set by the market share common denominator. IS managers need a reason to evangelize Macintosh in their organizations, and it looks like these new Macs will give them several, especially in graphics-intensive applications.

As Valentine Michael Smith, the protagonist in Robert Heinlein's "Stranger in a Strange Land," might say, it seems at last Apple is grokking the fullness.

Mr. Smith was a human brought up by aliens and, as a result, didn't fit in with either his human or foster societies. Apple at times seems to have the same problem. It's good to see that with the next generation of Power Macs the company has managed to take its otherworldly vision and use it to build products with advances obvious even to us normal terrestrials.

At least, according to sources. □

Andrew Gore is MacWEEK's executive editor/news. He welcomes feedback at Andy_Gore@macweek.ziff.com.

MacWEEK (ISSN 0892-8118) is published weekly, with the exception of July 3, Nov. 20, and Dec. 18 and 25, by Ziff-Davis Publishing Co., 1 Park Ave., New York, N.Y. 10016. Single-copy price, including postage: $6. One-year subscription rate: U.S., $125; Canada/Mexico, U.S. $225; International, U.S. $350 (airmail). All orders must be prepaid. Direct **subscription inquiries** to Customer Service Department, MacWEEK, c/o JCI, P.O. Box 1766, Riverton, N.J. 08077-7366; (609) 786-8230. **Changes of address** require that a new application be filled out completely and include both new and old addresses. Allow four to six weeks for processing. We periodically make lists of our customers available to carefully screened mailers of quality goods and services. If you do not wish to receive such mailings, please let us know by writing to us at Customer Service Department, MacWEEK, P.O. Box 10633, Riverton, N.J. 08076-0633. **Postmaster:** Send address changes to MacWEEK, P.O. Box 1766, Riverton, N.J. 08077-7366. Second-class postage paid at New York and additional mailing offices. Printed in U.S.A. Canada Post International Publications Mail Product (Canadian Distribution) Sales Agreement No. 410667.

Installer bug delays Office

Microsoft pledges revised CD-ROM by the end of June

By David Morgenstern

Microsoft Corp. last week confessed that an installer bug will further delay the shipment of Office 4.2's CD-ROM maintenance update. A fixed version will ship at the end of June, according to the company.

The bug occurs when the CD-ROM-based installer attempts to write over a Microsoft Office Manager preferences file on 680x0-based Macs, Microsoft said. The problem brings the process to a halt and users must force the program to quit to return to the Finder.

The company recommends that users remove the Office Manager Preferences file before beginning the procedure.

The problem does not crop up on Power Macintosh installations or with floppy-based installs on 680x0 Macs.

"I'm upset," said consultant James Kouris, owner of Lan Data Voice Inc. of Glenview, Ill. "My clients are upset — and the current version runs like s---. The CD version is essential. I'd like to see someone install the 30-disk floppy version on 25 workstations. I'd be there forever."

Microsoft said 16,000 CD-ROMs with the bug were released this month.

One user awaiting the release said, "Yes, it has an installation problem: No one is installing it."

Originally expected for release in April, Office 4.2.1 includes Word 6.0.1, a maintenance release that boosts speed, fixes extension conflicts and removes bugs (see MacWEEK, March 20, Page 3). Office 4.2.1 also includes Excel 5.0a, which fixes a linking bug. □

App melds paint, draw tools

By Cate C. Corcoran

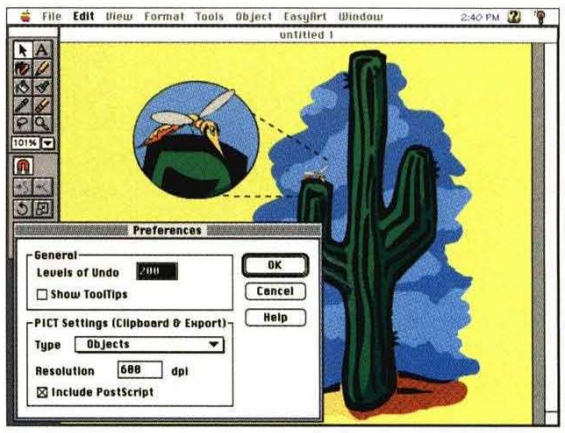
FutureWave Software Inc. last week shipped the Macintosh version of SmartSketch, a low-cost graphics application that melds the capabilities of vector- and pixel-based programs.

The $69.95 program, aimed at consumers as well as professional artists, combines the flexibility of paint tools with Bezier-curve technology. For example, images users create with the paintbrush tool automatically become editable objects defined by Bezier-curve outlines.

Unlike many vector-based programs, SmartSketch objects don't have limited handles from which curves can be edited. Instead, users can point to any place on an outline and drag to reshape the object.

Erasing through an object or cutting and dragging away a piece of an image creates discrete, adjustable objects.

Features designed to make image creation easier for novices include a Paint Inside feature that automatically restricts users' brush strokes to the area within the outline where they began painting. A Shape Recognition feature makes perfect squares, circles, arcs and triangles from freehand drawings. SmartSketch can be set to join corners of objects automatically. The program can be set for up to 200 levels of Undo. SmartSketch drawings can be exported in Adobe Illustrator88 format.



FutureWave Software's SmartSketch combines the flexible tools of painting applications with the scalability and editability of Bezier-curve objects.

FutureWave includes more than 500 pieces of clip art and seven interactive drawing lessons with the program.

A 30-day trial version is available for $5.95.

FutureWave Software Inc. of San Diego can be reached at (619) 637-6190 or (800) 619-6193; fax (619) 637-9032. □

AOL acquiring Internet developers

By Jon Swartz

America Online Inc. last week capped a yearlong buying binge by gobbling up a pair of publishing and Internet developers.

Ted Leonsis, president of AOL Services, a division of AOL, said the stock buyouts of Wide Area Information Servers Inc. and Medior Inc. will help AOL establish a product line that spans the converging on-line, multimedia and Internet markets.

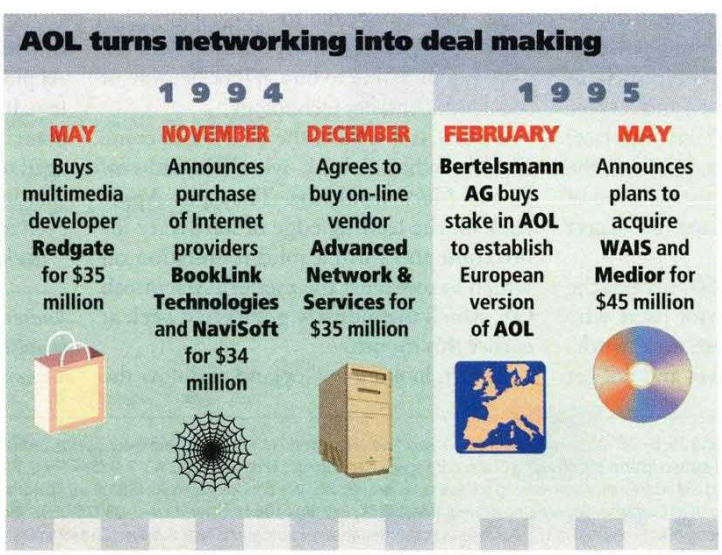
"[AOL sees] an interactive services business that will be an amalgam of on-line, the Web, CD and multimedia, and interactive marketing and transactions," Leonsis said. "And we are building a Web-centric presence in those quadrants."

AOL has spent nearly $150 million in stock and cash to acquire half a dozen vendors since May 1994 (see chart, right).

The company said it plans to purchase WAIS of San Francisco for about $15 million. AOL intends to take advantage of WAIS' customized Internet access to publishers, books and magazines.

Vienna, Va.-based AOL will also acquire Medior, a San Mateo, Calif., developer of CD-ROMs, for about $30 million. Medior will design software for AOL content providers and develop CD-ROM products linked to the service.

According to Leonsis, AOL has also lined up several software companies, including Novell Inc. of Provo, Utah, and Compton's New Media of Carlsbad, Calif., to provide their software and CDs to AOL's 2.5 million U.S. users. □


AOL turns networking into deal making
1994
1995
MAY
Buys multimedia developer Redgate for $35 million
NOVEMBER
Announces purchase of Internet providers BookLink Technologies and NaviSoft for $34 million
DECEMBER
Agrees to buy on-line vendor Advanced Network & Services for $35 million
FEBRUARY
Bertelsmann AG buys stake in AOL to establish European version of AOL
MAY
Announces plans to acquire WAIS and Medior for $45 million

Adobe Player aims to extend Acrobat reach

PDF files to play on range of devices

By Cate C. Corcoran

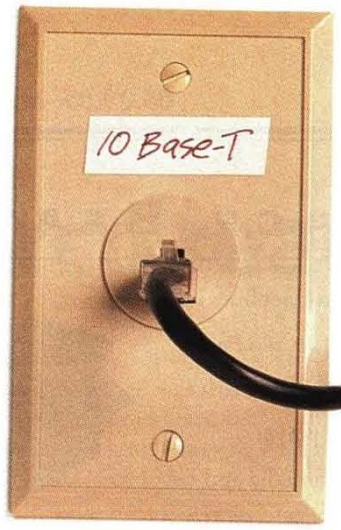
Adobe Systems Inc. last week made an announcement that may bring new meaning to the term "cross-platform" when applied to Adobe Acrobat's Portable Document Format.

Adobe introduced the Acrobat Player, device-independent software that allows third-party hardware developers to customize and embed firmware that reads the Acrobat Portable Document Format, or PDF, in computer-based devices such as presentation projectors, PDAs, navigation devices and set-top boxes. Acrobat Player will let such hardware view, search and scale the platform- and font-independent PDF files created with Acrobat software on Mac, Windows and Unix machines.

According to Jennifer Mitchell, principal analyst of digital documents at Dataquest Inc. in San Jose, Calif., digital publishers will no longer be limited to providing content to personal computers with CD-ROM drives. "This opens up a whole new world of where content can be viewed," she said.

In simultaneous announcements, a trio of manufacturers announced integration of the Player with their hardware. In-Focus Systems Inc. of Wilsonville, Ore., and Proxima Corp. of San Diego said they will both integrate the Player technology into LCD projection panels and multimedia projectors equipped with floppy drives. Slated to ship late this year, these devices will let presenters put slides in PDF format onto a floppy disk and show them on projectors or panels without bringing a portable computer along.

Trimble of Sunnyvale, Calif., said it plans to include Acrobat Player firmware in future satellite-based navigation, positioning and communications hardware products. Adobe said that the combination of PDF files and navigation devices could let users combine the use of scalable, annotatable PDF-format maps with satellite information. □



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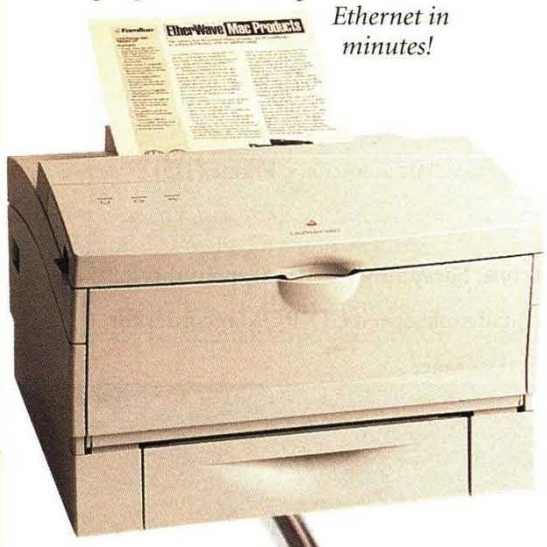

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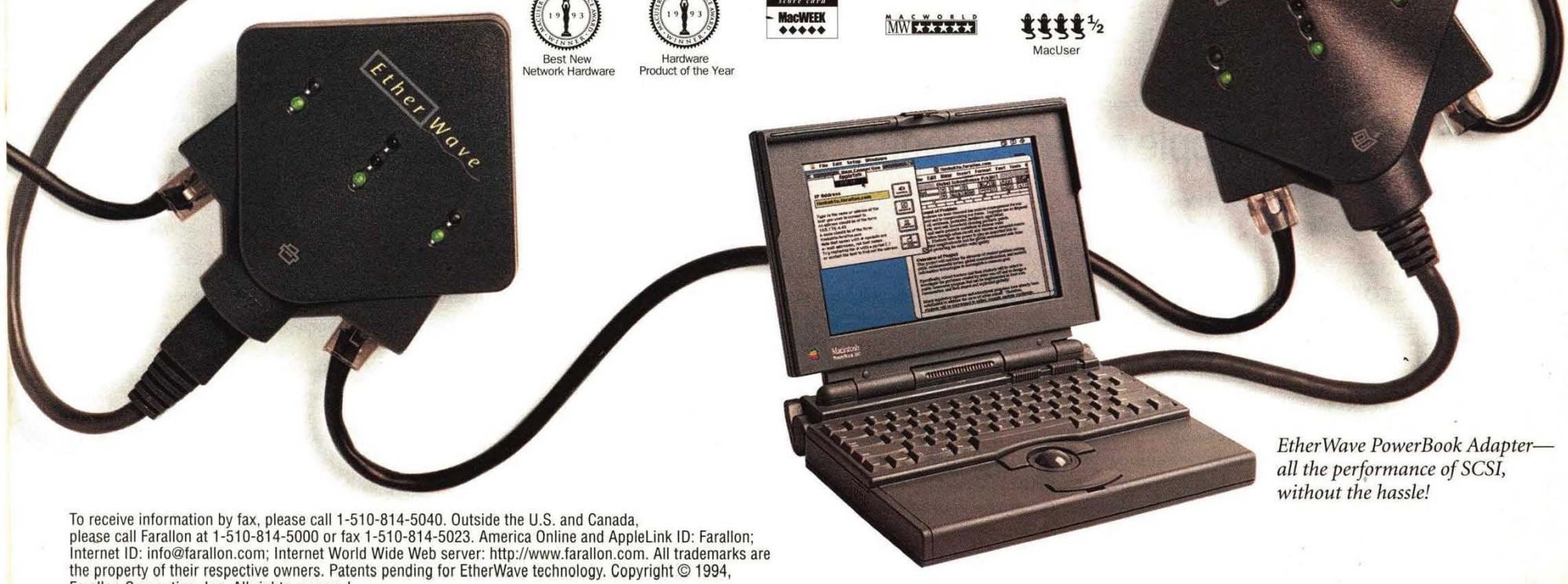

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Scheduler adds e-mail

Meeting Maker can send notices

By James Staten

Workgroups using ON Technology Corp.'s Meeting Maker XP can now extend invitations to users not on the calendaring system, thanks to new features in Version 3.0, which shipped last week.

Meeting Maker XP lets Macintosh, DOS and Windows clients share calendars across one or more LAN-based servers. Version 3.0 adds Microsoft MAPI (Messaging API) support, allowing the program to send meeting notices via a variety of e-mail systems, including Microsoft Mail.

The new version features an External Guest button in the Meeting Proposal window; either users can enter the Internet address of the recipient or Meeting Maker will poll the address book of a local MAPI-based mail system to provide a list.

Several underlying capabilities have been added to Meeting Maker XP, including MAPI support for e-mailing meeting notices, enhanced proxy functions and a new holiday designation.

In addition, import filters have been added that allow Meeting Maker to acquire calendar data from Microsoft Corp.'s Schedule+, Microsystems Software Inc.'s CaLANdar and Now Software Inc.'s Now Up-to-Date.

The proxy feature has also been enhanced, allowing users resident on another Meeting Maker server to edit other users' calendars. A new Holiday designation displays holidays as inactive work days.

New administration features include a scheduled server shutdown and backup process and a Move User command that lets administrators reposition accounts among servers.

Meeting Maker XP remains at $790 for 10 users. Upgrades are $29 per user.

ON Technology Corp. of Cambridge, Mass., can be reached at (617) 374-1400 or (800) 767-6683; fax (617) 374-1433; info@on.com or www.on.com. □

La Cie lines up scanners, storage

By David Morgenstern

La Cie Ltd. will beef up its peripherals lines this summer with new scanners and a range of storage devices.

The company next week will ship two scanners. The $999 Silverscanner DTP is a three-pass CCD (charge-coupled device) 24-bit-color scanner with an optical resolution of 400 by 800 dpi, which can be increased to 3,200 dpi via software interpolation, La Cie said.

The SCSI device handles images up to 11.67 by 8.5 inches and can scan a color page in one minute. It comes with a limited version of Adobe Photoshop. Users can add a $499 30-page sheet feeder and $799 transparency adapter.

La Cie will also offer the VIP Scan, a $199 monochrome scanner for business cards. The compact SCSI unit comes with a combination of OCR and contact-database software that can capture up to 30 fields. Both the hardware and software are based on UMAX Technologies Inc.'s $249 BizCard Reader (see MacWEEK, Feb. 20, Page 6). The device will also ship with Now Software Inc.'s Now Contact software.

In July, La Cie said, it will release new Joule storage modules with half-height, 3.5-inch SyQuest and Fujitsu magneto-optical mechanisms. The SyQuest module will cost $489; the MO will be $699.

In August, La Cie will ship the PC-Card Reader/Writer, a $429 Joule module with a PCMCIA reader-writer with Type II and Type III slots. Each card slot will have its own SCSI-2 interface, which will operate simultaneously.

La Cie Ltd. of Beaverton, Ore., is at (503) 520-9000 or (800) 999-0143; fax (503) 520-9100. □

For the record

The May 15 issue of MacWEEK (Page 37) incorrectly quoted Scott Hawthorne of HSC Software Corp. Hawthorne, who has both Philips and Pinnacle CD-Recordable drives, actually said, "With our own Pinnacle CD-Recordable unit, we can create a master in just a few hours."

Apple extends scope of At Ease

By Robert Hess

Giving network administrators and parents even more control over what Mac users can do, Apple this month unveiled Version 3.0 of At Ease for Workgroups, its Finder-replacement software.

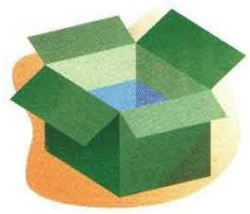
Designed primarily for shared computers in classrooms, labs and homes, At Ease 3.0 builds on the previous version and offers not only a simplified desktop but also full or restricted access to the real Finder. Users' accounts can be configured to allow them to use the Finder but not empty the Trash, for example.

The update also introduces a category of midlevel administrators, who can modify some of the security restrictions on other users but who lack some options available to a standard administrator.

In addition, Version 3.0 enables administrators to control user access to removable media such as CD-ROMs. A new Drop Box feature lets users save documents to preset locations, such as floppies or servers, or exchange files with other At Ease users.

The update is expected to ship this month for $295. Upgrades are $99. □

STORAGE BEAT



FWB scores. Moving its product lines into the front court, FWB Inc. of Menlo Park, Calif., this month released new tape drives and a high-speed CD-ROM player.

With an eye toward multimedia and graphics backup, FWB shipped its $7,599 hammerDLT 20G, a digital linear tape drive (DLT) based on a Quantum mechanism. The drive fits up to 20 or 40 Gbytes, respectively, of uncompressed or compressed data on a DLT cassette.

In other tape news, the new DDS $1,639 hammerDAT 4000 uses hardware compression to record up to 4 Gbytes on a 90-meter cartridge at a data transfer rate of 732 Kbytes per second. FWB swapped the $1,509 hammerDAT 2000's Wang mechanism with a Hewlett-Packard DDS-1 DAT unit. A 60-meter cassette can hold up to 2 Gbytes and has a 183-Kbyte-per-second data transfer rate.

FWB's $849 hammerCD 6x is a sextuple-speed caddy-feed reader. It comes with FWB's CD-ROM Toolkit 1.5.2 software, which supports CD-Plus and Active Audio formats. Phone (415) 325-4392; fax (415) 833-4655.

Seraph cooks up CD-R drive. Seraph Inc. of Minneapolis this month released CD Oven, a quadruple-speed CD-ROM recorder for users with a taste for disc-based storage.

The compact $3,495 unit comes with three blank discs and uses Astarte GmbH's Toast CD-ROM Pro 2.5 software. It can write in Mac Hierarchical File System, CD-ROM XA, ISO 9660, Digital Audio and CD-I formats. It supports multisession, mixed-mode and hybrid HFS and ISO discs. Phone (612) 525-5925; fax (612) 525-5926.

Smart and Friendly serves a side order of Toast. Smart and Friendly of Van Nuys, Calif., this month enhanced the value of its CD-Recordable systems with Astarte's Toast CD-ROM Pro 2.5 authoring application.

The CD-R 1002/Toast uses a double-speed recorder and costs $1,999; the $2,599 CD-R 1002/MAT includes Macromedia Director. Phone (818) 994-8001 or (800) 366-6001; fax (818) 988-6581.

Storage bits and bytes. Seeking ways to take the sting out of drive problems, **Quantum Corp.** of Milpitas, Calif., and **Symantec Corp.** of Cupertino, Calif., this month said they will team up to support SMART (self-monitoring, analysis and reporting technology). Symantec's utility application will support the SMART failure-prediction standard now built into many hard drives. ... Earlier this month, five major drive vendors decided to include SMART in IDE (Integrated Drive Electronics) mechanisms, said **Seagate Technology Inc.** of Scotts Valley, Calif. Currently, the algorithms are used only in high-performance SCSI drives. ... The United States has a strong grip on the RAID market, according to a recent report by **Disk/Trend Inc.** of Mountain View, Calif. How strong? Try 94 percent!

— By David Morgenstern

Barco readies projectors

By James Staten

Barco Inc. this summer will ship three new high-end projection systems capable of generating images measuring at least 20 by 15 feet.

Each model supports up to two video and two computer sources simultaneously; offers multiple lenses, including zoom; and includes an infrared remote control. On-screen settings will let users adjust brightness, contrast, focus, color saturation and tint.

The projectors can also be connected to Barco's RCVDS 800 or RCVDS 05 source switchers, priced at $2,695 and $2,295, respectively, which let users control up to 90 input sources simultaneously.

▶ **The BarcoGraphics 8100,** priced at $54,995 and expected to ship in July, uses three 5.8-inch active-matrix LCDs to output images composed of 1.2 million colors in either the standard or 16-9 screen ratios. It has a contrast ratio of 300-to-1. The unit features a 650-watt metal-halide lamp that can output 2,000 lumens to generate a maximum screen size of 35 by 26 feet. It measures 45 by 12 by 25 inches and weighs 154 pounds.

▶ **The BarcoGraphics 808,** which will ship in July for $20,749, is a CRT-based projector that outputs 210 lumens. It measures 42 by 11 by 23 inches and weighs 148 pounds.

Users of the 808 can set and password-protect screen geometry, convergence per source and color temperature. The 808 also includes built-in focus correction for all parts of the screen.

▶ **The BarcoGraphics 3100,** due to ship in June for $20,995, is a multimedia projector that uses three 3-inch active-matrix LCDs to display images with a palette of 1 million colors. Its contrast ratio is 200-to-1. The unit features a 575-watt metal-halide lamp that can output 750 lumens. It measures 26 by 24 by 14 inches and weighs 96 pounds.

The 3100 includes a built-in 10-watt amplifier, a 15-watt mono speaker, and three audio input and output ports.

Barco Inc. of Kennesaw, Ga., can be reached at (404) 590-7900; fax (404) 590-8836. □

Revamped Drive7 utility zips up support for IDE

By David Morgenstern

Shifting into high gear, Casa Blanca Works Inc. last week added support for IDE mechanisms as well as Iomega Corp.'s Zip drive in an update to its Drive7 storage utility.

Version 3.5 of the $89.95 program lets users add multiple partitions to drives with IDE, or Integrated Drive Electronics, interfaces currently found in Apple's 630-series Macintoshes and the PowerBook 150.

The company said the partitions can include password, locking and automount settings. The software supports drives in capacities up to 1.2 Gbytes.

Drive7 now supports the new 4-Gbyte volume size for SCSI drives available with System 7.5. Users can also simultaneously update drivers and format multiple hard and removable drives, Casa Blanca said.

The update improves support for removable-media drives, including caching for the Zip drive. It offers a Selective Ejection feature aimed at systems that start up from a removable-media drive. Drive7 prevents magneto-optical or SyQuest cartridges from ejecting after a restart or shutdown.

Users of Version 3.0 can upgrade for $20 until June 15 and $30 thereafter. The price is $30 for owners of earlier versions and Drive7 Lite.

Casa Blanca Works Inc. of Greenbrae, Calif., can be reached at (415) 461-2227; fax (415) 461-2249; cbworks@aol.com. □

Leader ushers in PowerMerge upgrade

Leader Technologies Inc. this week will add scheduling and backup capabilities to its PowerMerge file-synchronization program. Version 2.5 of the $129 program is Power Mac-native; the RISC-based software sorts files 500 percent faster than the previous version, 2.0, Leader said.

The upgrade adds a scheduling engine that reconciles master and slave versions of files and folders at a specific time or date, at prespecified intervals, or when the Mac is connected to a network or dock.

PowerMerge 2.5 lets users sort volumes or disks by modification date and size, as well as by file type and creator. The search results can then be archived or deleted in a single batch.

Upgrades are $44.95.

Leader Technologies Inc. of Newport Beach, Calif., can be reached at (714) 757-1787; fax (714) 757-1777. □

Mac Users: Go forth, and conquer.

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Vince DiPaola takes a few million pages to explain why he likes our servers so much.

These days, Gamma One turns around more separation jobs than just about any 130-person pre-press shop in the country. They do it with talented people, high standards and one very impressive kind of hardware: the new Workgroup Servers from Apple.

Recently, Vince DiPaola, V.P. Technology at Gamma One, bought nine Workgroup Servers. He then added two critical pieces of software: Adobe™ Color Central, which lets users work with files in a low-resolution format—saving significant processing time when designing layouts, printing and sending files. And Canto Cumulus PowerPro software, which catalogues thousands of images, for quick, easy retrieval.

And because they're Apple® servers, says Vince, "We don't need a certified engineer on hand to maintain them. Our people do all the upgrades themselves around here."

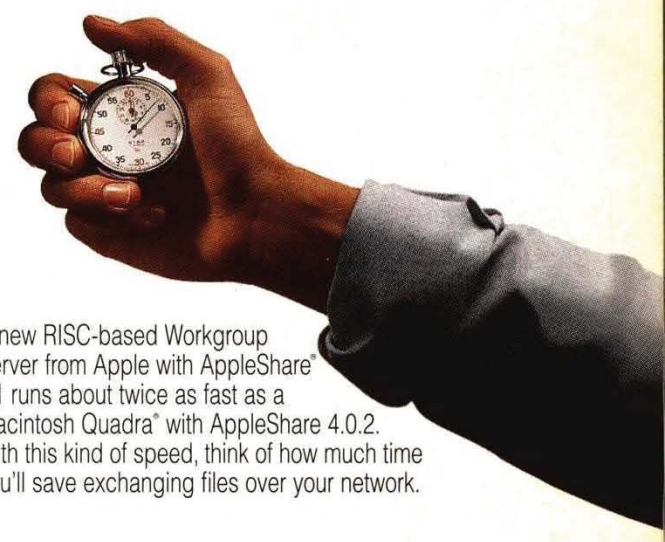
Of course, our Workgroup Servers can help your business discover a whole new power, too. The power to be more productive. The power to be more effective. The power to be your best.®

"The volume of work that moves through here is mind-bending. With so much going on, our people can't afford to waste time hunting for a photo on a SyQuest cartridge or waiting 25 minutes for a screen to clear. And there's never any excuse for a job being late. Or wrong. The truth is, with this much work, life without servers just isn't an option. These Workgroup Servers have been a major help in keeping us organized, efficient and sane. Well, organized and efficient, anyway."

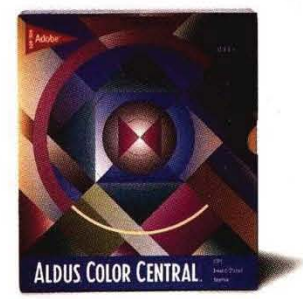
–Vince DiPaola

Vince DiPaola,
V.P. Technology, Gamma One,
North Haven, Connecticut.

Gamma One is a color-separation house whose clients include Hanover Direct, Lord and Taylor, Clifford and Wills, Bloomingdale's and many, many, many, many more.

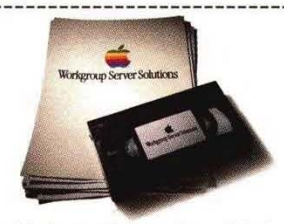


A new RISC-based Workgroup Server from Apple with AppleShare® 4.1 runs about twice as fast as a Macintosh Quadra® with AppleShare 4.0.2. With this kind of speed, think of how much time you'll save exchanging files over your network.



Adobe Color Central converts high-res images into low-res "sample files." So your people can crop, rotate, scale—and print—images in just seconds. Because the server does the bulk of the processing, your workstations don't have to.

Canto Cumulus stores and catalogues virtually thousands of images. So now your people can retrieve them quickly and easily—instead of having to spend their valuable time hunting through SyQuest cartridges, CDs and hard disks.



For detailed information on how Workgroup Servers can transform your business, call **1-800-538-9696** (ask for **ext. 930**) to receive our free *Workgroup Servers in Publishing* information kit.

Apple

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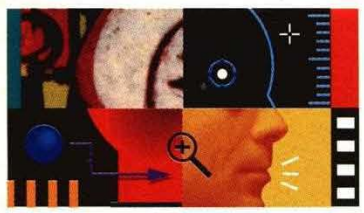

SHOW OFF

Macromedia Inc. is seeking multimedia projects authored with its software. Phone (415) 252-2000.

ScanView's new devices

Imagesetters and scanners debut

By Donna Raskin

ScanView Inc. debuted a half dozen new devices this month at the Drupa printing show in Düsseldorf, Germany. They include:

▶ **Scanners.** The drum-based ScanMate 11000, due this summer for $49,995, will produce a resolution of 11,000 dpi. Featuring 14-bit color depth and an optical density of 4.0, the single-pass, three-photomultiplier-tube device will enlarge originals up to 3,600 percent.

The ScanMate 11000 will have a maximum scanning area of 8.75 by 12 inches and will scan transparencies, reflective images, negatives and slides.

The second scanner is the flatbed FlexMate 4000. ScanView said it is designed to accompany ScanView's ScanMate 5000 and 11000 drum scanners; the three scanners share the ColorQuartet interface.

The DotMate 5000CTP, a computer-to-plate machine, features an internal drum and costs $91,500. It can also output film and paper.

The FlexMate 4000, available now for $12,995, can scan reflective images up to 11.7 by 17 inches at 1,400 dpi. Smaller originals can be scanned at up to 4,000 dpi. The RGB device captures 1 Mbyte per second of image data and scans at 36 bits per pixel.

▶ **Imagesetters.** ScanView announced the DotMate 4000, an internal drum device that will work with film, paper and polyester. Priced at $65,500 with a hardware RIP, it will be available by midsummer.

The DotMate 4000 will have a maximum exposure area of 14 by 18 inches with resolutions up to 3,600 dpi and screen rulings of 300 lines per inch. At maximum width, the machine will output, per minute, 5.5 inches at 3,600 dpi or 16.5 inches at 1,200 dpi.

The imagesetter will come with an external 90-MHz Pentium RIP with 32 Mbytes of RAM, expandable to 128 Mbytes. It will feature two 1-Gbyte disk drives and two high-speed SCSI connectors. The RIP software will be ScanView's RipMate, which is PostScript Level 2-compatible. An optional punch registration system is $6,000.

ScanView also announced a new four-up device, the DotMate

See ScanView, Page 12

VivaPress Pro update to import XPress files

By Cate C. Corcoran

Interpress Technologies Inc., makers of VivaPress Professional, the intrepid QuarkXPress and Adobe PageMaker competitor, announced that an upgrade to the page-layout application will incorporate a wide range of new features and improvements.

Slated to ship in August, VivaPress Pro 2.0 will be a free upgrade for owners of the $895 application and will include a filter for importing files created in QuarkXPress versions 3.11 through 3.31.

New image-handling features will let users adjust screen resolutions for imported images and automatically embed previews of imported images, which the company said will speed redraws. In the new version, users will be able to adjust separation values in imported EPS files, including switching from RGB to CMYK.

The picture usage dialog box will add image search and retrieval over a network.

Version 2.0 will generate a report listing fonts, style sheets and imported EPS files in a VivaPress Professional document.

Support for Apple's World-

See VivaPress, Page 12

Version 2.0 of Interpress' VivaPress Professional can magnify images up to 1,000 percent and includes a filter that lets users open QuarkXPress files from within the application.

FOCUS ON PUBLISHING

Color measurement now for the masses

By Nancy J. McCarthy

Two years ago, most Mac users could only dream of the scientific precision available from a spectrophotometer, a sophisticated color-measuring device with a price tag of $15,000 and up. These days, Mac users in industries as varied as fabric design, automotive painting, food product grading, and pre-press and printing can get similar precision for less than $1,000 with the recently released spectrophotometers designed specifically for the personal computer market.

"The new spectrophotometers are another important tool for the production of precision color," said Bob Schaffel, emerging technology consultant for printing giant R.R. Donnelley & Sons Co. of Chicago. "Especially in the pre-press world, we're using four inks to try to reproduce all of nature — that's a pretty nervy thing to do. We get a lot of help from devices such as this."

Michael Gorman, a senior graphic designer at Square One Design Inc. in Grand Rapids, Mich., who has been beta testing the Digital Swatchbook color-measurement device from Grandville, Mich.-based X-Rite Inc., agreed. "When we first got the device in-house, I immediately pulled open a Pantone book and measured a ton of colors to see if the Digital Swatchbook would match them perfectly," Gorman said. "And

See Focus On, Page 12

The Black Box 2.0 uncrates new filters

By Carolyn Said

The Black Box is getting a face lift. Alien Skin Software LLC next month will release Version 2.0 of The Black Box, its collection of Adobe Photoshop filters, sporting four new filters and a revamped interface.

The Black Box 2.0 will add filters for Inner Bevel, Carve, Cutout and Motion Trail to the original six filters — Drop Shadow, Outer Bevel, Glow, Glass, Swirl and HSC Noise.

Version 2.0 will let users preview filter effects in a dialog box. The upgrade will also let users save and reuse filter settings.

Inner Bevel is among the four new filters featured in The Black Box 2.0. A revamped interface will show previews of filter effects.

The Black Box 2.0 will take advantage of the new Layers feature in Photoshop 3.0, allowing users to manipulate transparency in layers. Alien Skin said the partially transparent effects — Drop Shadow, Glow, Motion Trail and Swirl — can be created in layers and later moved, making experimentation easier.

Available for both 680x0 and PowerPC Macs, The Black Box works with any image-editing program that supports Photoshop filters. The Black Box 2.0 will be $119. Upgrades will be $29 or free to users who purchased Version 1.0 after April 1.

Alien Skin Software LLC of Raleigh, N.C., can be reached at (919) 832-4124; fax (919) 832-4065; alient@vnet.net. □

Paint Your Dreams!

Buy a PaintBoard Prism GT™ and get Fractal Painter 3.0 FREE

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The PaintBoard Prism GT is an excellent add-on for boosting the graphic capabilities of a PowerMac 6100 or 7100 to incredible performance. It delivers accelerated 24-bit (16.7 million) color in resolutions up to 1152 x 870 on displays up to 21". Including 3MB of V-Ram for quick display of large images, hardware based 2x, 4x, 8x pan and zoom, the PaintBoard Prism GT lets you magnify and move around your image instantly without loss of detail. Perfect for 24-bit pre-press/graphics applications with any PowerMac or 68030/040 Nubus Macintosh.

Fractal Painter 3.0 is the best selling 24-bit paint and image creation package. Painter has won several awards including a four mice rating from MacUser magazine and a five star review in the April issue of Macworld magazine. Painter is the preferred choice for designers, illustrators, photographers and publishers and provides the perfect software compliment to the PaintBoard Prism GT graphics card.

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FOCUS ON

From Page 10

it did. It matched every one I tried."

Gorman believes the new spectrophotometers will empower desktop publishers and designers to reach a new level of control in achieving accurate color. "In the past, we'd send out our really critical color work to a color house [that] would manipulate our images on a proprietary Scitex system and then send them back to us," he said. "But we're getting to the point with things like the Digital Swatchbook and ColorSync 2.0 where the industry is better addressing color issues instead of just providing patches."

Allan Visser, pre-press manager of Printing Arts, a printer and pre-press house also in Grand Rapids, said that although desktop spectrophotometers don't have the level of accuracy of the traditional devices, their convenience is a major consideration, in addition to the cost savings. "A lot of our clients don't know exactly which Pantone color they want; they just send us a printed sample and tell us to match the colors in that," Visser said. "What's nice about this little instrument is that instead of having to search through the Pantone books and try to visually match the colors — a process that takes 15 minutes or longer — we just apply the Digital Swatchbook to the printed samples to accurately match the colors in a matter of seconds. The time savings is amazing."

Shipping this week for $1,095, X-Rite's Digital Swatchbook is similar in functionality to the $1,195 Colortron color-measurement device, which Light Source Inc. of Larkspur, Calif., shipped earlier this year. Both devices are handheld and let users capture color from a variety of sources, such as fabrics, paper, plastics, food products, inks, paints and dyes, translating those colors into spectral data that can be communicated to and used by the Mac. The devices include software that lets users compare, specify, preview, organize, match and create new colors based on the spectral information.

Two other companies are developing desktop spectrophotometers for the OEM channel. Color Savvy Systems Inc. of Springboro, Ohio, and Prepress Associates of New York said they expect releases this year, but distribution and pricing are not set.

Richard Lerner, president of Fabric Effects Inc., a fabric design house in New York that uses Macs to create fabric designs for clients such as the Rolling Stones and Ralph Lauren, has been experimenting with Light Source's Colortron for matching swatches of fabric. "We have lots of standard swatches on a variety of fabrics," he said. "We can use the Colortron to digitally catalog all of our swatches so that we have spectral data on each color as it appears on a particular fabric."

Andrew Coleman, special projects coordinator for Monarch Computex, a company in Glendale, N.Y., that provides hardware and software solutions to textile designers, fiber producers and creators of fashion graphics, said: "In the textile industry, there's a lot of different ways to communicate color. Using the Colortron, you can sample your original color to get spectral data, which is like a fingerprint of that color. And users can save that data in a device-independent way, so that we're at least one step closer to better communication, with the hope that everybody will finally agree on a standard."

Fabric Effects uses Light Source's Colortron to ensure color fidelity among dyes on different types of fabric.

R.R. Donnelley's Schaffel also hopes to see progress in the area of color communication: "What we need is a more seamless way to get the data in and out of the applications we use. In the meantime, the improvement in precision provided by the new spectrophotometers well justifies the cost." □

ScanView

From Page 10

7500P imagesetter, which will feature a silver-reclamation process called Silver Saver and a Green Quality Module that will let it function without plumbing or venting.

The internal drum machine will have a maximum exposure area of 21.7 by 29.5 inches. It will screen up to 7.5 inches at 3,600 dpi or 15 inches at 1,800 dpi at maximum width.

Featuring two input cassettes and a RipMate RIP, the SpeedMaster 7500P will output film or paper. The device, due in November, will cost between $130,000 and $140,000.

The third new imagesetter, the DotMate 5000CTP, is a computer-to-plate device, available now for $91,500. The internal drum machine will also output film and paper. It will have a maximum exposure area of 16.5 by 22 inches.

The DotMate 5000CTP will expose 5.5 inches per minute at 3,600 dpi and 16.5 inches at 1,200 dpi at maximum width. It will feature a RipMate RIP and may be bought with optional punch registration.

▶ **Digital camera back.** ScanView is entering the digital photography market with the Carnival 2000, a high-end camera back. Due in midsummer for $34,995, the single- and multishot device will feature a CCD (charge-coupled device) array chip.

The Carnival 2000 will capture images up to 2,048 by 2,048 pixels. It will come with an attachable 500-Mbyte hard disk or it can be used with a PCMCIA drive.

It will offer an ASA equivalent of 100 and a dynamic range of 10 f-stops. The frame size of exposures will be 1.2 by 1.2 inches. In snapshot mode, the camera back will generate image sizes of 12 Mbytes; in studio work, it will generate three-exposure still photos of 48 Mbytes.

The camera back will attach to a Mac via a SCSI-2 cable and may be used with ScanView's ColorQuartet software. A camera controller, housed in a separate, detachable unit, will hold the power supply and hard disk. The Carnival 2000 will support the Hasselblad 553ELX at release; future support is planned for the Mamiya 645 Pro and RZ 67, as well as for view cameras.

ScanView Inc. of Foster City, Calif., can be reached at (415) 378-6360; fax (415) 378-6368. □

VivaPress

From Page 10

script II will allow users to change text direction and group characters. Expanded magnifications will range from 5 percent to 1,000 percent.

In other news, Interpress said a bundle of Claris Corp.'s ClarisDraw and FileMaker Pro with VivaPress Pro will soon ship in Germany and is slated for release in the United States by September.

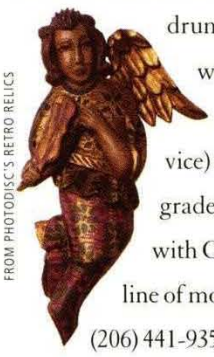
The company also said that Island Graphics Corp. of San Rafael, Calif., plans to ship by fall a high-end trapping application designed to work with VivaPress Pro.

Interpress Technologies Inc. of New York can be reached at (212) 245-2700; fax (212) 245-2784. □

CLIP ART BEAT

Cartesia maps series. Full-color map art is now available from Cartesia Software of Lambertville, N.J. The MapArt Designer Series comprises two CD-ROMs or a set of floppy disks. MapArt World consists of 164 world, regional and oceanic maps. MapArt USA holds 50 state maps with counties, cities, highways, rivers and ZIP-code areas. The maps are in Adobe Illustrator format. The set costs $199. Phone (609) 397-1611 or (800) 334-4291; fax (609) 397-5724.

PhotoDisc drum scans product line. PhotoDisc Inc. of Seattle has drum-scanned its digital stock photography and artwork for its CD-ROM line. The company previously used lower-resolution CCD (charge-coupled device) scanners. The discs cost from $249 to $299. Upgrades are $19. PhotoDisc has also signed an agreement with Clement Mok Designs to distribute the company's line of more than 1,000 photographic object images. Phone (206) 441-9355 or (800) 528-3472; fax (206) 441-9379.



FROM PHOTODISC'S RETRO RELICS

New discs from Digital Stock. Ten new stock photography discs featuring animals, places and people, and industrial and historical sites are now available from Digital Stock Corp. of Solana Beach, Calif. Individual discs are either $249 or $349, depending on subject matter. The company has also released Version 2.0 of its Catalog and Demonstration Disc with 3,000 low-resolution preview images from its 30 discs. Phone (619) 794-4040 or (800) 545-4514; fax (619) 794-4041.

T/Maker unleashes Creative Fuel. The gang at T/Maker Co. of Mountain View, Calif., who gave graphic designers ClickArt, has released Creative Fuel on CD-ROM, containing more than 3,000 images and 2,500 fonts for $49.95. T/Maker has also released ClickArt Cartoons Fun 5 Pak CD, which costs $29.95 and contains more than 500 cartoons as well as 10 fonts. Phone (415) 962-0195 or (800) 986-2537; fax (415) 962-0201.

FROM CLICKART CARTOONS

The Power of HSC Software. HSC Software Corp. of Carpinteria, Calif., has released KPT Power Photos, 10 CD-ROMs that hold 500 images. Each picture is an 18- to 24-Mbyte RGB TIFF file. The discs are grouped by topic, including natural backgrounds, food, urban backgrounds landscapes and sports. The collection will sell for $99 through June and $199 thereafter. Phone (805) 566-6200; fax (805) 566-6385.

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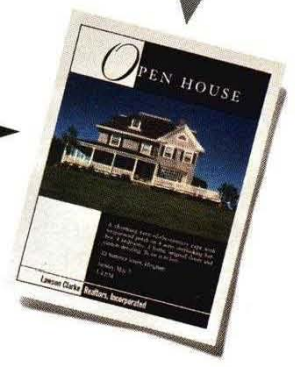

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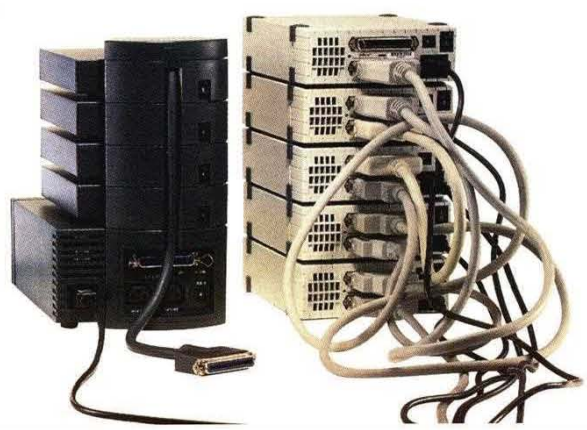

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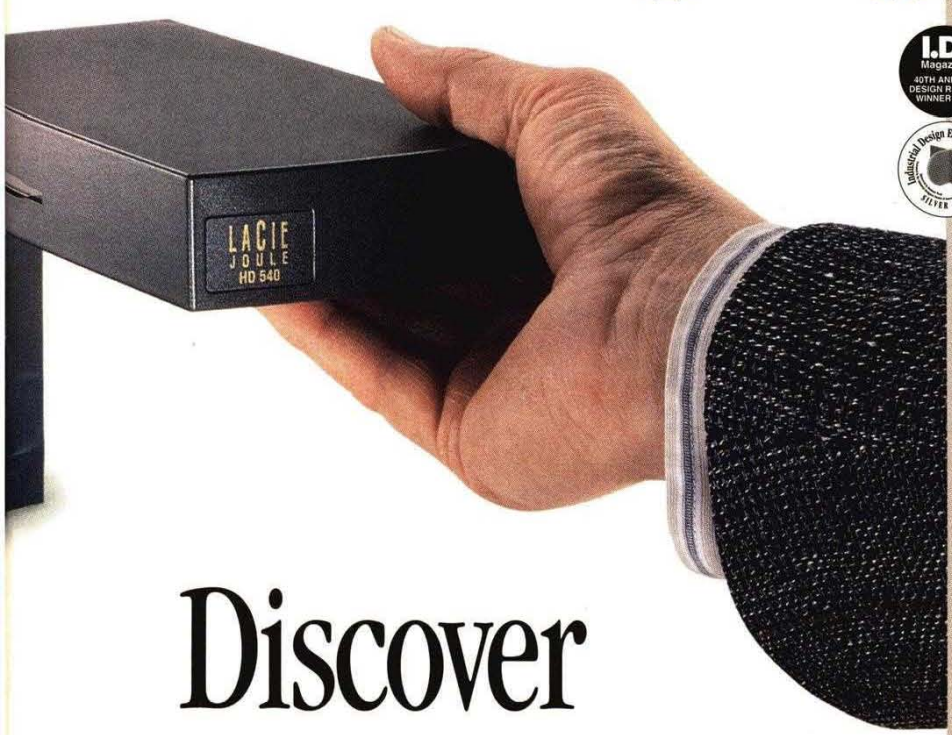

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850MB	CALL	CALL
730MB	$249	$359*
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Quantum – 2 year warranty		
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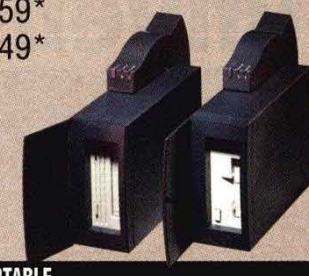

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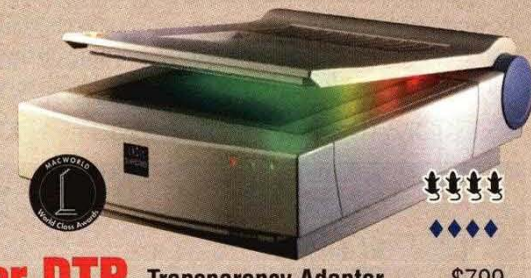

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Lotus unveils plans for cc:Mail, Notes updates

Company hinges messaging plan on components

By Nathalie Welch

Lotus Development Corp.'s view of integrating groupware and messaging functionality via Notes is a grand vision — and a complicated one. Last week company officials detailed this year's planned Macintosh releases of cc:Mail and Notes and described how they all will interoperate.

The company's new focus is on "independent components and fewer monolithic components, so we can drive them to market more quickly and reliably," said Larry Jones, group manager of client-server messaging in Lotus' Mountain View, Calif., offices.

That component model, now dubbed the Lotus Communications Architecture, is a change from last year's goal of an all-in-one messaging platform, which was to be called the Lotus Communications Server (LCS). The company began publicly backing away from its server model in December.

At the Electronic Message Association's annual conference in New Orleans this month, Lotus showed cc:Mail 7.0, the future e-mail client that will use Microsoft Corp.'s MAPI (Messaging API)

See Lotus, Page 18

Lotus' mail plans for the second half of 1995

CC:MAIL 6.0

- Uninterrupted service during administration
- cc:Mail 6.0 clients with client-based rules, more viewers, better Finder integration, Draft and Trash folders, and P.O. addressing

NOTES 4.0

- cc:Mail Connector for linking cc:Mail and Notes
- User folders
- Type-ahead addressing in mail forms
- New message-delivery reports
- Capability to link forms to databases via ViewLink

CC:MAIL 7.0

- Client for both cc:Mail 6.0 and Notes 4.0
- MAPI service-provider interface
- Message threading
- Personal directories
- Automatically opening folders

Lotus to deliver cc:Web Mail server software

By Nathalie Welch

Lotus Development Corp. is preparing new server software that will let cc:Mail clients access their LAN-based mailboxes via the Internet's World-Wide Web.

cc:Web Mail will comprise code running on top of a Windows NT-based Web server that has access to one or more cc:Mail Post Office databases. The client portion will be simply any Web browser that supports forms. Several commercial browsers have already been verified as compatible, said J.F. Sullivan, cc:Mail product manager.

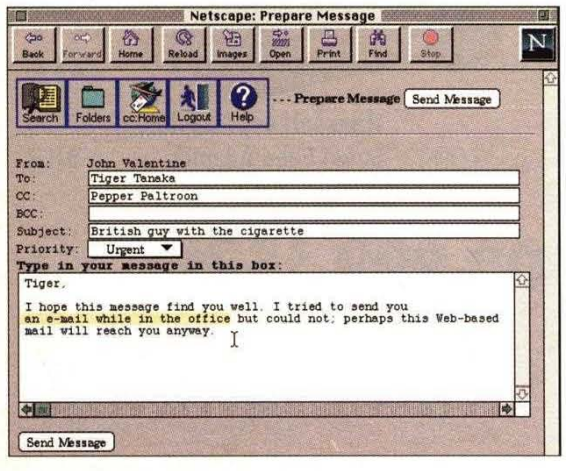
The new Web link is due to go into beta testing in a few months, but final availability and pricing have not been set. "It will be very inexpensive compared to the current fuller-featured mobile or desktop clients," Sullivan said.

Lotus is considering charging sites for actual use of the Internet-based client rather than for each potential user. "The price will come out to reflect the connection usage of the Web," Sullivan said.

A main selling point of the Web-based client will be platform independence. "The real trick here is since we made the Web browser sort of the client frame, it is ubiquitous, cross-platform and all the other wonderful things," Sullivan said.

According to Larry Jones, group manager of client-server messaging: "If I have Mosaic for the Macintosh or I have Netscape for the Macintosh ... I can look at

See cc:Web Mail, Page 18



Lotus' forthcoming cc:Web Mail add-on to its cc:Mail server will let users log on over the Internet and use e-mail via any World-Wide Web browser.

Farallon preps cards for PCI Mac rollout

By Clifford Colby

Fast Ethernet PCI cards will be in stores when the first PCI Macintosh ships in June, Farallon Computing Inc. promised last week. Cards from Asanté Technologies Inc. will also be ready, somewhat later than expected.

Georganne Benesch, director of product marketing, said Farallon will sell its dual-speed PCI 10/100-Mbps Ethernet card for $249; its 10/100-Mbps NuBus card will ship in July for less than $350.

The company's PCI card, based on 3Com Corp.'s chip set, will use the Open Firmware standard to store all necessary drivers on the card itself. These drivers will depend on Apple's upcoming Open Transport networking software. Benesch said users will be able to download future Open Transport updates directly onto the card.

"As the performance of Open Transport improves, the performance of our card will improve," Benesch said.

Farallon will supply 3Com's drivers for Intel-standard PCs to customers who wish to use the card across platforms, but the company will focus on Mac usage.

Asanté said it started shipping evaluation units of its $269 10/100BASE T PCI card May 22; the company previously announced that the card for PCs shipped in early April. Although Asanté's card does not currently include Open Transport drivers,

See Farallon, Page 18

FOCUS ON OPERATING SYSTEMS

AIX, MachTen, Linux to fill PPC Unix gap

By Robert Hess

This month Apple stopped selling Unix, but three new Power Mac-native Unix environments are heading for Apple's systems, each from a vastly different source.

Apple's 680x0-based Unix, A/UX, was never very popular. Industry estimates place its entire installed base, including desktop Macs and the Workgroup Server 95, at about 15,000. Nonetheless, Apple's Unix on a Mac has been attractive to small communities in government and higher education as well as at sites that wanted the fastest possible servers. Those same groups see Apple's current and future PowerPC systems as a tantalizing hardware platform waiting to be exploited by the power of a native Unix.

Apple itself is paving the way for the arrival of IBM Corp.'s AIX, which is due on PowerPC servers in October.

In 1991, Apple and IBM said AIX on the PowerPC would conform to the PowerOpen standard.

The market need for PowerOpen certification is unproved, nonetheless, Apple is "still committed to making sure AIX is PowerOpen-compliant," said Apple spokesman John McCreadie.

One aspect of AIX is not

See Focus On, Page 18

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Lotus

From Page 16

to communicate with Lotus' upcoming Notes 4.0 server in addition to working with normal cc:Mail Post Office databases. Jones said Version 7.0 was due for the Mac in the second half of 1995.

Before this bilingual future arrives, Lotus will ship cc:Mail 6.0; Notes 4.0; and Notes gateways for SMTP (Simple Mail Transport Protocol), X.400 and cc:Mail. "This set of stuff here was what we were calling LCS," Jones said.

These pieces are due in the same time frame. "It's all second half of the year," said Amy Shaw, cc:Mail product manager. "Honestly, nothing has been nailed down."

Version 6.0 will be the next big upgrade from the current cc:Mail 2.2; the jump in number will bring versions on all platforms into alignment. cc:Mail 6.0 will be "a new upgrade into our Post Office that allows the administrators to run tools and backups and all sorts of things on that Post Office, 24 hours a day, seven days a week, while users have access to it," Shaw said. Currently cc:Mail kicks users off before administration, she said.

The improved Post Office database in Version 6.0 will be the foundation for many new features (see chart, Page 16); "some of those features will be exposed in the 6.0 clients, but many of them won't be," Shaw said.

Lotus sees a big opportunity to lure away users of Microsoft Mail. Redmond, Wash.-based Microsoft is also reconstructing its messaging architecture (see MacWEEK, March 6, Page 10). "We feel that they're exposed all over the place because they're basically abandoning the file-share side of the business and requiring everybody to move to client-server," Shaw said.

"We are going after them very aggressively, and on the Mac side there is an even further opportunity ... because they're slow to ship their releases," she said.

And while Microsoft has an e-mail integration pact with Apple, Lotus has a bundling deal. Starting next month, Notes Express will come free with every Power Mac that has 12 Mbytes or more of RAM. "They are going to use the discussion-database capability in Notes Express to actually provide some documentation for users on their Macintosh," Jones said. "So literally out of the box, you can pull it out and use it."

Jones said that Lotus' Mac enthusiasm is not dampened by the built-in messaging in the Mac OS, and the company will continue to sell into sites that already have access to PowerTalk.

"I think our integration with Apple's operating system is at least as good as Apple's own integration with their own mail product," he said. "It may even be better." □

cc:Web Mail

From Page 16

my cc:Mail Post Office from this Web browser from anywhere on the Internet. You can see your whole In Box, all your folders, bulletin boards."

cc:Web Mail security will be handled via the network or the Web browser. The former alternative requires "an internal side that's fire-walled up the wazoo," Sullivan said. "The limit there, of course, is that the mobile users won't be able to connect in from around the world." The second method will most likely be to use Netscape Communications Inc.'s session-encryption features.

Lotus Development Corp.'s cc:Mail division in Mountain View, Calif., can be reached at (415) 961-8800 or (800) 448-2500; fax (415) 961-0215. □

Farallon

From Page 16

the company said it was on target to ship them when Apple releases its first PCI-based Mac. Asanté also said it would ship its $1,995 12-port 100BASE T stackable hub in mid-June.

Farallon said it will ship its eight-port Fast Starlet hub in September; Benesch said the 100-Mbps repeater will cost about $200 per port. Based on technology licensed from Grand Junction Networks Inc. of Fremont, Calif., the device will have a slot to accept a Farallon-developed module that will bridge 10-Mbps and 100-Mbps LANs. The module, also due in September for less than $1,000, will come with two EtherWave RJ45 ports and one AUI (attachment unit interface) port. The company has plans to release a straight 100-Mbps Ethernet bridge module later.

Farallon Computing Inc. of Alameda, Calif., can be reached at (510) 814-5000; fax (510) 814-5020; info@farallon.com. □

FOCUS ON

From Page 16

coming along as Apple and IBM planned, however.

Unlike Unix versions from Hewlett-Packard Co. and Sun Microsystems Inc., AIX does not currently support Apple's Macintosh Applications Environment emulator, which was supposed to be available for AIX under the name Macintosh Application Services. Apple said no decision has been reached about whether the product will ever be released.

Today, Tenon Intersystems of Santa Barbara, Calif., is carrying forward the Unix-on-Mac banner almost single-handedly with its MachTen environment. An implementation of Berkeley Standard Distribution 4.3 Unix that is built on top of Carnegie Mellon University's Mach 2.5 foundation, MachTen is a Mac OS application that provides a multitasking Unix, according to Tenon.

MachTen comes in two configurations: The $495 Personal edition includes development tools in C and assembly language, as well as code headers and libraries from Tenon and Apple, and the $695 Professional version implements virtual memory and memory protection, plus a source-code debugger and an advanced C++ compiler.

Currently, MachTen runs in emulation on Power Macs, but Tenon said it plans to ship Version 4.0, which will be native, within the next six weeks. The new version will also add dynamic memory configuration, dynamically linked shared libraries, memory-mapped file access and improved development tools.

The grass-roots alternative, Linux, is being ported to the Power Mac by Charlton Wilbur and Jem Lewis, two students at Bowdoin College in Brunswick, Maine. Linux is a free Unix implementation for Intel-standard PCs.

The volunteer duo said they plan to target NuBus-based Power Macs first, then Motorola Inc.'s PowerStack series of non-Macintosh PowerPC machines and finally IBM's PowerPC 601-based RS/6000 workstations. The two are in the early stages of developing a version for Apple's upcoming PCI-based Macs, although they have no release schedule yet.

Based on 32-bit Intel 386 source code, Linux for PowerPC focuses on the PowerPC 603 instruction set, which will allow it to run on other PowerPC processors. Prices have not been set.

Apple offers information on its server plans at http://.abs.apple.com; Tenon maintains a World-Wide Web page at http://www.tenon.com and the Linux pair have built a page at http://liber.stanford.edu/linuxppc/linux-ppc-faq.html. □

DEVELOPER BEAT

An easy, open dialog. FGM Inc. of Herndon, Va., this month announced a new set of programming libraries called OpenDialog, which the company said will make the creation of dialog boxes easier. Instead of using the Dialog Manager code from the Mac Toolbox, OpenDialog will present the developer with a more abstract, easier-to-use set of calls, FGM said. When it ships in June, the API will carry an introductory price of $99. Starting in September, it will cost $259. Phone (703) 478-9881; fax (703) 478-9883; opndlg42@fgm.com.

ObjectMaster to get help, work in drag. ACI US Inc. of Cupertino, Calif., announced that it will release Version 3.0 of its ObjectMaster Universal development tool June 15. The update will support Apple's Toolbox Assistant on-line help product and Macintosh Drag and Drop among windows and the Finder. It will also work with Symantec Corp.'s C++ 8.0 for Power Mac and improve compatibility with Metrowerks Inc.'s CodeWarrior. Phone (408) 252-4444; fax (408) 252-4829.

Water's Edge lifts Tools Plus. Water's Edge Software of Oakville, Ontario, last month shipped Version 2.6 of its Tools Plus multilanguage user-interface and event-management libraries. The update is $149 for Symantec's Pascal, C and C++ environments; $199 for Metrowerks' CodeWarrior Bronze; and $299 for CodeWarrior Gold. Phone (416) 219-5628; fax (905) 847-1638; watersedge@eworld.com.

PowerTap brews distributed apps. Redmond, Wash.-based Emerson Kennedy has introduced its PowerTap API for distributed applications development. Using the API, developers create applications that can be installed on multiple networked Macs and share processing duties, such as graphics rendering, among the Macs, the company said.

A license for Emerson Kennedy's API sells for $1,300 for two developers or $2,500 for an unlimited-user license. Phone (206) 865-0420 or (800) 297-3888; fax (206) 865-8133.

Code fragments. Fresh on the heels of an investment by Delrina Corp., **Ex Machina Inc.** of New York said it will release in June three software developers kits for adding paging features (send, send-and-receive, and high-level wireless) to custom applications. ... **Bare Bones Software Inc.** of Bedford, Mass., and **Baseline Publishing Inc.** of Memphis, Tenn., announced this month that owners of Baseline's Vantage text processor will be able to buy Bare Bones' BBEdit for $69.95. ... Santa Monica, Calif.-based **Iconix Software Engineering Inc.** announced this month that its PowerTools line of development products will support C++ increasingly over time. The first components of the product to do so will be its ObjectModeler and FastTask. ... **Apple** said 4,045 developers attended this month's Apple Worldwide Developers Conference in San Jose, Calif., a record.

— By Robert Hess

Connecting LocalTalk Devices To Your Ethernet Is A Big Deal.

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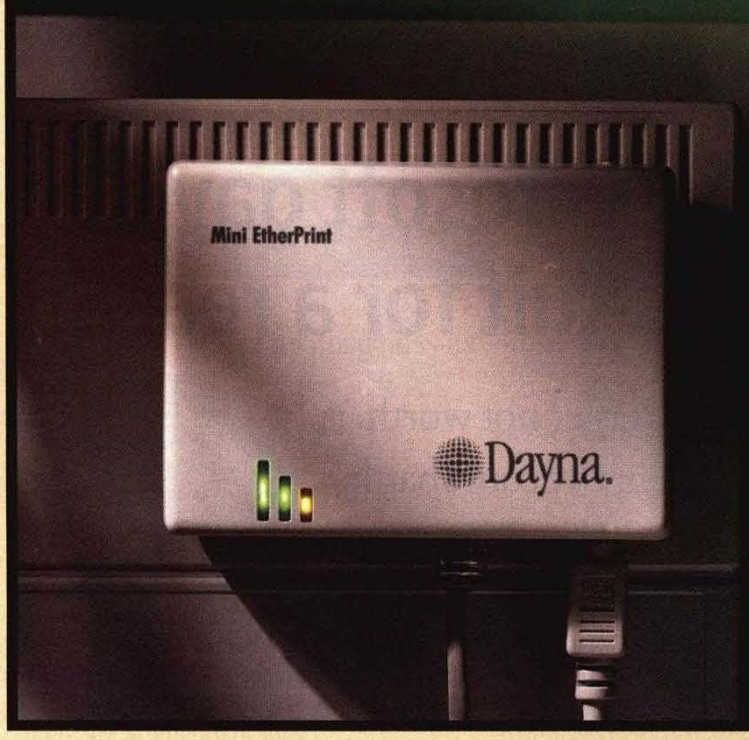

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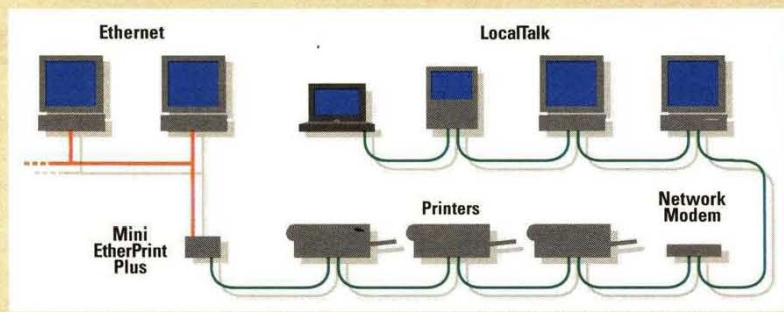
It's called Mini EtherPrint, and it's the ideal way to provide a simplified Ethernet connection for as few as 1 or 2 LocalTalk printers to as many as 8 LocalTalk devices of any variety.



Mini EtherPrint products are ultracompact plug-and-print solutions offering Ethernet connectivity for LocalTalk devices. Mini EtherPrint supports 1 or 2 devices, Mini EtherPrint Plus supports up to 8.

Mini EtherPrint connects to your printer with no set-up routines or start-up sequences. Just plug and print. For easy trouble-shooting, we've included power, activity and link status lights, as well as a handy reset switch. And if there's a power outage, Mini EtherPrint will restart and restore its connections automatically. We also include SecurIt™ protection software to prevent unauthorized access to network modems, color printers or other LocalTalk devices.

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MEMORIES

A majority of Macintosh users have 8 Mbytes of RAM in their computers.

— Apple research

High-tech CEOs cash in

Executive salaries struck gold in '94

By Don Monkerud

MacWEEK's executive compensation survey, based on wages and bonuses from 1994 company proxy statements and surveys compiled by BusinessWeek and Forbes magazines, shows it paid to be a high-tech CEO last year.

Compaq Computer Corp. CEO Eckhard Pfeiffer, whose 1994 salary doubled to $5.05 million from $2.5 million in 1993, headed the list. He edged IBM Corp. CEO Louis Gerstner Jr., whose 1994 pay increased 64 percent, to $4.6 million from $2.8 million in 1993.

Oracle Corp. CEO Lawrence Ellison finished third at $2.41 million, although his annual salary improved by $260,000 from 1993. Ellison, who started Oracle in 1977 with $1,850, is now worth an estimated $2.9 billion.

In addition to Ellison, several others made the Forbes 400 list of most valuable executives.

Theodore Waitt, the 31-year-old CEO of Gateway 2000 Inc., earned $667,000 in salary last year, but his stock is worth about $600 million. Microsoft Corp. CEO Bill Gates — worth a reported $9.3 billion — cleared $458,000 in salary and bonuses last year. And Michael Dell, CEO of Dell Computer Corp., is reportedly worth $405 million; his 1994 salary totaled $406,000.

Although Cisco Systems Inc. CEO John Chambers finished 19th in the MacWEEK survey, with $346,000 in salary and bonuses, he exercised a whopping

See Executives, Page 22

MacWEEK Executive Compensation Survey

Lawrence Ellison | Michael Spindler | John Chambers | John Warnock

RANK	EXECUTIVE	COMPANY	TITLE	SALARY
1	**Eckhard Pfeiffer***	Compaq Computer Corp.	CEO	$5,050,000
2	**Louis Gerstner Jr.**	IBM Corp.	CEO	$4,600,000
3	**Lawrence Ellison**	Oracle Corp.	CEO	$2,410,000
4	**Andrew Grove**	Intel Corp.	CEO	$2,102,400
5	**Gary Tooker**	Motorola Inc.	CEO	$1,999,000
6	**Scott McNealy**	Sun Microsystems Inc.	CEO	$1,215,000
7	**Lewis Platt**	Hewlett-Packard Co.	CEO	$1,179,400
8	**Finis Conner**	Conner Peripherals Inc.	CEO	$1,080,000
9	**Alan Shugart**	Seagate Technology Inc.	CEO	$938,000
10	**Michael Spindler**	Apple	CEO	$934,400
11	**Robert Palmer**	Digital Equipment Corp.	CEO	$900,000
12	**Robert Frankenberg**	Novell Inc.	CEO	$725,000
13	**Theodore Waitt**	Gateway 2000 Inc.	CEO	$667,000
14	**Ian Diery****	Apple	Exec. VP	$604,000
15	**William Miller**	Quantum Corp.	CEO	$516,000
16	**Eric Benhamou**	3Com Corp.	CEO	$477,000
17	**Bill Gates**	Microsoft Corp.	CEO	$458,000
18	**Michael Dell**	Dell Computer Corp.	CEO	$406,000
19	**John Chambers**	Cisco Systems Inc.	CEO	$346,000
20	**John Warnock**	Adobe Systems Inc.	CEO	$319,000

The MacWEEK executive compensation survey is based on the cash compensation — including salary and bonuses — collected by each executive during his company's 1994 fiscal year. The survey does not reflect income from stock options, profit sharing or other long-term benefits.

**Includes $1.5 million for reimbursement of taxes. **No longer with the company.*
Sources: BusinessWeek, Forbes, company proxy statements.

NEWS ANALYSIS

Microsoft gave up Intuit for a reason

Merger not worth lengthy court battle

By Jon Swartz

Bill Gates and Scott Cook aren't accustomed to losing. The golden boys of the personal computer industry usually get what they want — competitors, government and critics be damned.

So it came as a shock last week when Microsoft Corp. abruptly decided to call off its $2 billion purchase of Intuit Inc. in the face of antitrust opposition by the U.S. Department of Justice. Only a few weeks earlier the companies had vowed to fight the case in court.

The Justice Department's suit last month to stop the deal had raised the prospect of months of litigation, and Microsoft executives last week said they simply couldn't wait. "When we first entered this agreement with Intuit, we always said one of the key assets was the essence of time in allowing us to move in this very fast-developing marketplace," said Mike Maples, executive vice president of worldwide marketing at Microsoft.

Microsoft General Counsel William Neukom said deals like this month's decision by BankAmerica Corp. of San Francisco and NationsBank of Charlotte, N.C., to acquire Block Financial Software, maker of Managing Your Money, convinced Microsoft that it had to go alone if it wanted to move quickly in electronic banking.

CEO Gates and his Redmond, Wash.-based software company had hoped to stitch Quicken, Intuit's best-selling personal-finance package, into Microsoft Network. However, industry observers said the real reason Microsoft abandoned the buyout was not the length of the legal process but the outcome — Microsoft probably would have lost.

"Microsoft had a chance to see what the government's case consisted of, and they concluded this was a losing proposition," said Gary Reback, the Silicon Valley lawyer who helped galvanize opposition to the deal through a white paper he filed with Justice Department officials this year.

Sources familiar with the case said the government was ready to mount a strong prosecution based on hundreds of interviews with executives of software companies and on-line services. In a memo seized by the government, Intuit CEO Cook referred to Microsoft as "Godzilla." In another, a top Microsoft official boasted that a Microsoft-Intuit tandem "would be dominant."

A frustrated Cook, who stood to make $300 million from the

See Microsoft, Page 22

DTP gains hold in Europe; newspapers one strength

By Carolyn Said

The Old World may represent uncharted territory for the new world of desktop publishing.

Europe seems like a prime market for DTP and other digital solutions, yet, until recently, a smaller computer base and adherence to older technology has slowed acceptance, according to industry experts.

"Fewer people have moved publishing to the desktop than in the United States," said Derek Gray, senior vice president and European general manager for Adobe Systems Europe Ltd. in Edinburgh, Scotland. "Penetration of computers is lower. Things in Europe take longer to change," he said (see story, Page 22).

The fragmentation of multiple languages makes for a different publishing model, but it also opens up some market areas. "Digital presses like the Indigo [from Silicon Graphics Inc.] are needed more here because of changing content," Gray said. "Even if the contents of a document stays the same, you have to publish it in multiple languages."

Fredrik Eriksson, Apple publishing and media market developer for Europe, agreed. "Everyone wants to have a piece of short-run publishing," Eriksson said. "People who used to use copiers will buy presses."

Several experts agreed that Europe is ahead of the United States on one DTP front: newspaper production. "Almost every newspaper in Europe uses DTP," said Apple's Eriksson. "And they have unified solutions; they are using the Mac for everything — editorial, ads, illustrations, page layout, image layout."

See Europe, Page 22

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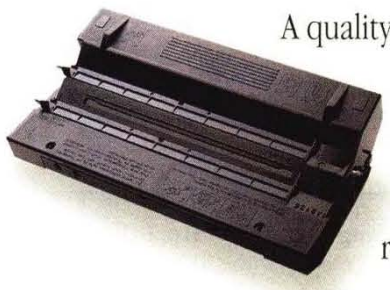

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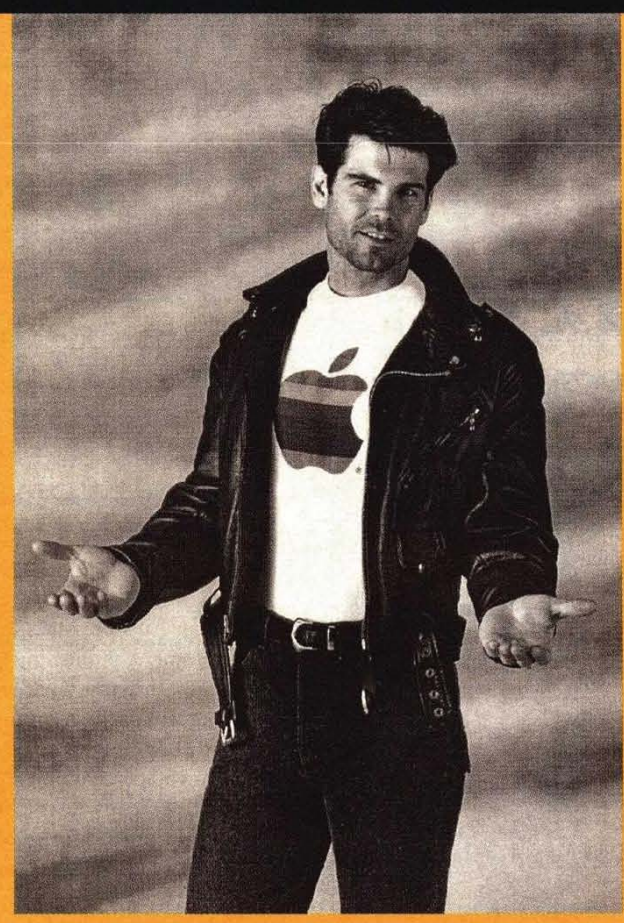

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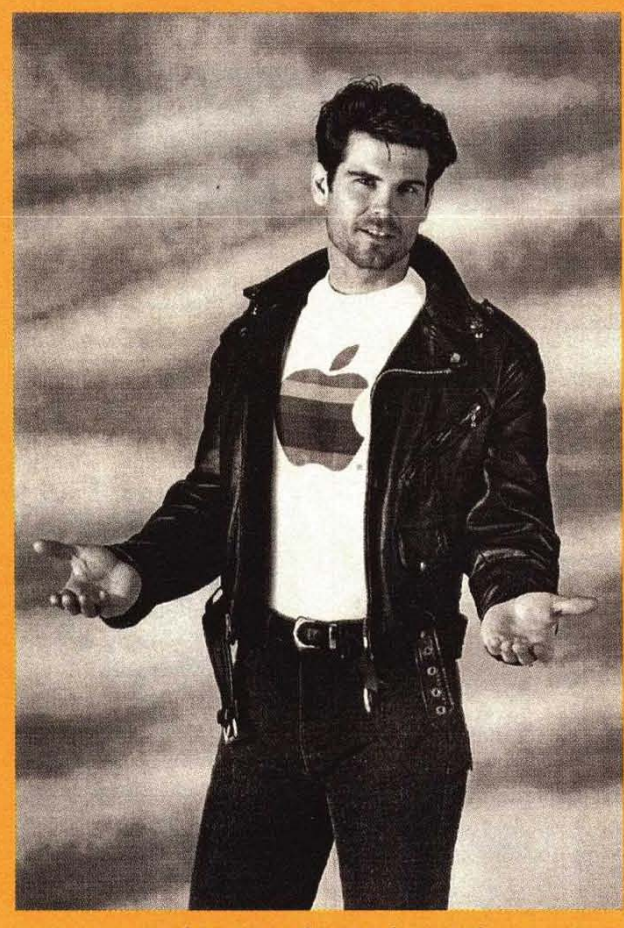

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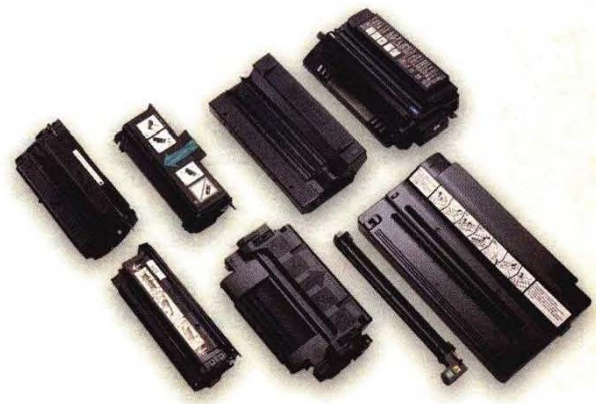

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Microsoft

From Page 20

deal, said Menlo Park, Calif.-based Intuit would license Quicken to banks and other companies interested in the booming market for electronic commerce. He also ruled out another merger. "We saw the Microsoft opportunity as a really unique one," he said. "We have no interest in a merger."

Microsoft, meanwhile, said it plans to release Money 4.0, an upgrade of its own personal-finance software, in the fall, and it will build electronic banking features into Microsoft Network.

In the end, Microsoft's decision to throw in the towel after fighting the government for five years in antitrust matters might also reflect a certain pragmatism on the company's part, industry experts said. "[Microsoft] simply was spending more time on legal matters than they were on product development," one software vendor said. □

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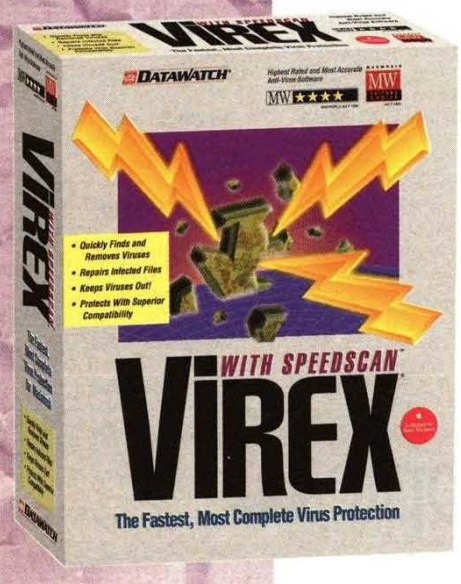

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Executives

From Page 20

$14.7 million in stock options.

Chambers received stock when he joined Cisco as vice president of sales in 1991. At the time, the networking company's sales were $183 million and profits were $43 million; this year, Cisco's sales are expected to hit nearly $2 billion, and profits should reach $315 million. "We are a company that leverages the success of our shareholders and ties performance to compensation of our executives," Chambers said.

Indeed, the sale of stock — not salaries — is the primary source of income for most computer executives.

A poll of 138 companies by the Software Publishers Association of Washington, D.C., revealed that the top 75 percent of computer software CEOs, on average, earned $200,000 a year in compensation. Conversely, salaries and bonuses for CEOs of the Big Three automakers ranged from $6.1 million to $8.1 million last year. "The high-tech industry in general makes heavier use of stock options as a motivating force than other, more mature industries," SPA counsel Mark K. Nebergall said.

According to Editor & Publisher magazine in New York, the estimated 1993 per capita income in the United States was $16,594.

The MacWEEK survey revealed another interesting tidbit: Gone are the salad days of Apple executive compensation. In 1993, CEO John Sculley made $1.47 million and was given $1 million in severance pay upon resigning in October. Last year, current CEO Michael Spindler cleared $934,000 in annual pay, down 7 percent from the $999,000 he earned in 1993 while he was president and chief operating officer. □

Europe

From Page 20

Although Intel-standard PCs are more prevalent in Europe, Macs lead the way as the pre-eminent publishing platform. For example, in Germany, where Macs represent just 4.5 percent of the computer population, Page, a leading magazine on desktop publishing, said 50 percent of its readership uses Macs vs. 40 percent who use PCs. "Pre-press professionals in Europe use Macs; that's the standard," said Holger Hagedorn, senior editor of Hamburg, Germany-based Page. "Windows is not the publishing machine."

An older installed base may stall some high-end publishing solutions. For example, in France, 45 percent of the Macs have a 68030-based processor, while 52 percent of the PCs have 286 or 386 processors, according to Virginie Kadzielawa, marketing publishing manager for Apple France.

Experts agreed that the European market is primed for an explosion in multimedia and on-line content, particularly since electronic delivery makes economic sense for presenting material in multiple languages. "Apple has a big opportunity with its [World-Wide] Web server," said Gerhard Rossbach, publisher of Dpunkt GmbH, a publishing house in Heidelberg, Germany. "This is a niche which could create an extra market for the Mac."

Meanwhile, Europeans are looking to new marketing opportunities in their next uncharted region. "Eastern Europe to us is like how you guys in the U.S. see China," Gray said. "Prague, Warsaw, St. Petersburg, Moscow were great European cities. As they get re-industrialized, there's an increased opportunity for publishing." □

Merged Adobe takes on the Continent

When Adobe Systems Inc. acquired Aldus Corp. last year, merging their European organizations presented a unique set of opportunities.

Strict labor regulations usually hinder European companies from making significant changes; a merger "is one of the few events over here that allows you to restructure," said Derek Gray, former head of Aldus Europe and now senior vice president and European General Manager for Adobe Systems Europe Ltd.

Aldus, which earned 35 percent of its revenues from shrink-wrapped products in Europe, had a stronger presence than Adobe, which earned 25 percent of its application revenue in Europe. With about 260 European employees for Aldus compared with 60 for Adobe, Aldus generated about 25 percent to 30 percent more revenue in Europe than Adobe during 1993. Meanwhile, Adobe actually sold more units, largely because of OEM channels, such as scanner makers bundled with Photoshop.

Gray and a team of people from both Adobe and Aldus identified several key areas to focus on in restructuring the combined company. They included developing multiple distribution channels, an area in which Aldus was stronger, and taking the initiative to drive users' demand, which historically has been the purview of European distributors.

With U.S. distributors such as Ingram Micro Inc. entering Europe, the responsibility of developing product awareness through advertising, trade shows and seminars is falling on developers like Adobe.

The company decided to outsource technical support and product localization, which was partially to blame for a reduction in staff from 320 between the two companies to 170.

Although Gray declined to give specific numbers on Adobe's installed base in Europe, he said Adobe magazine, which is sent free to users of the company's major applications, will soon have a circulation in Europe of 500,000.

"Software companies in Europe face hard times because of the high costs," Gray said. "We wanted to end up with a lean, mean organization." — *By Carolyn Said*

Six Things *Not* To *Forget* When Buying *Memory.*

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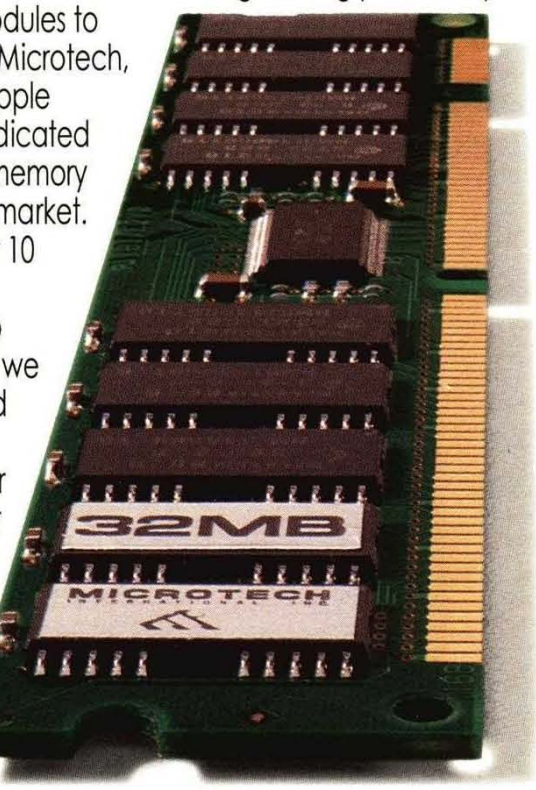

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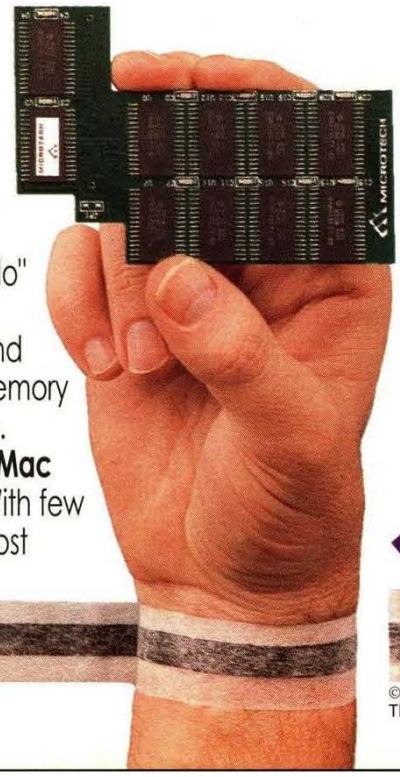

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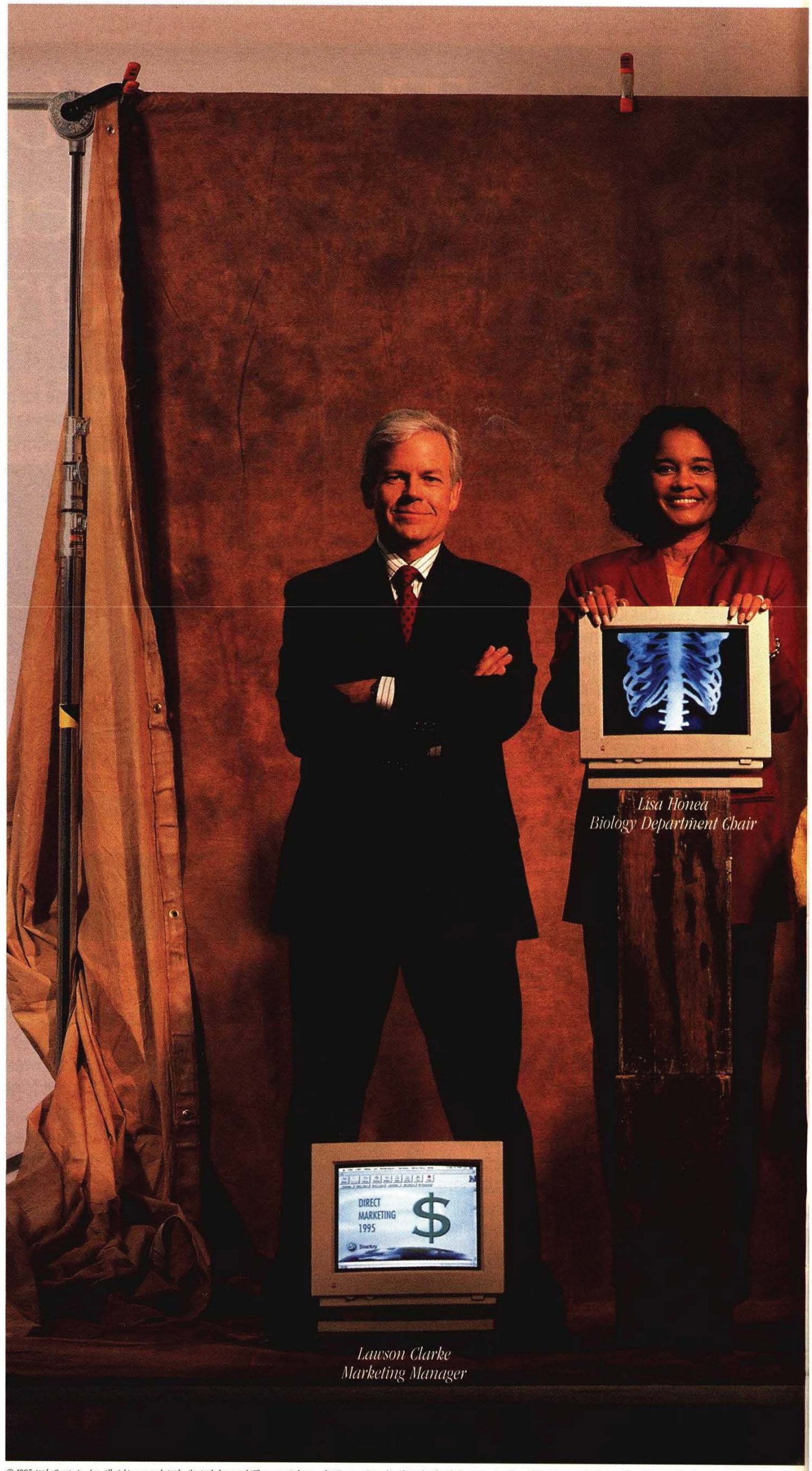

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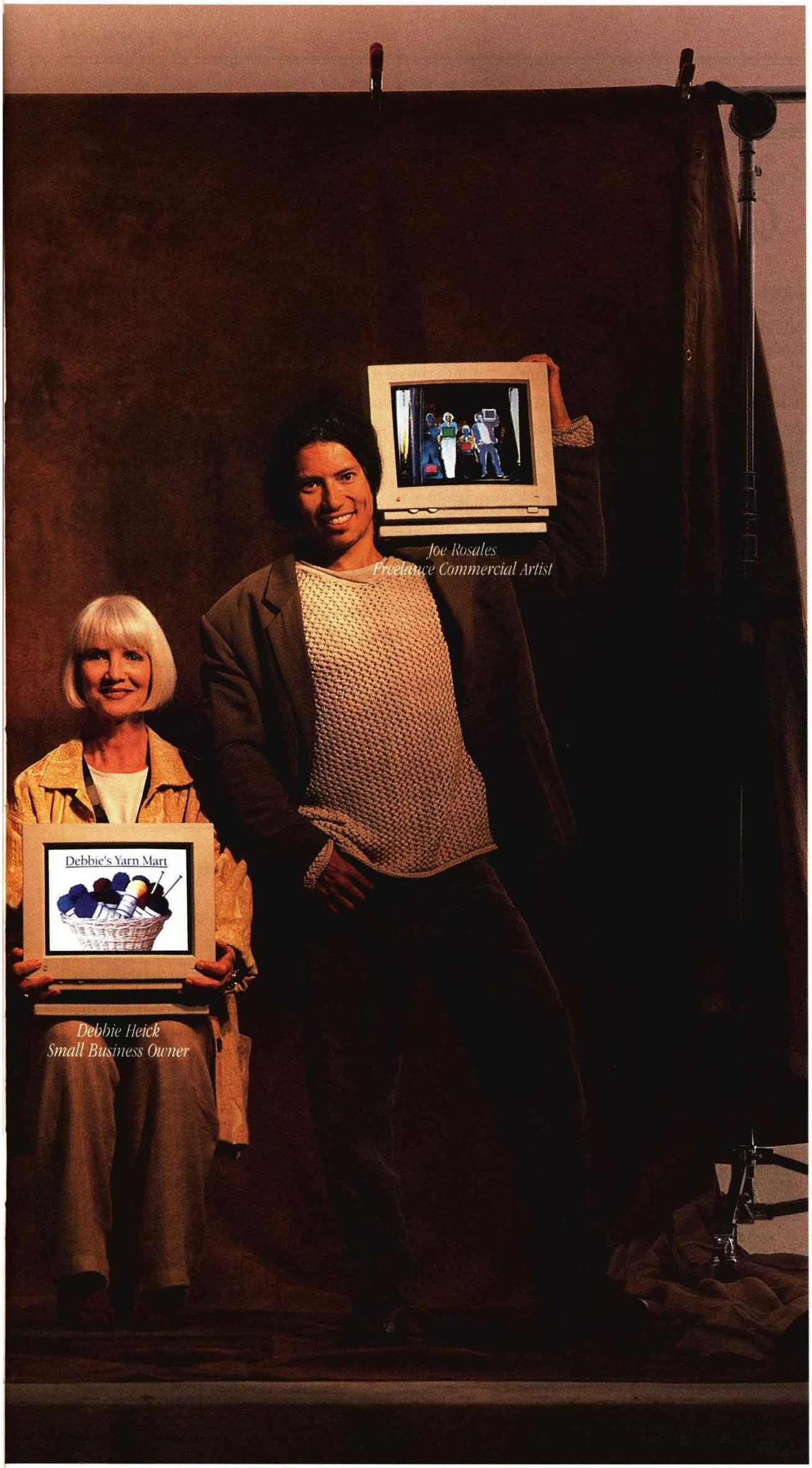

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BPA INTERNATIONAL

Gates' Intuitive Move

Last week's decision by CEO Bill Gates to abandon his company's merger with Intuit Inc. caught people by surprise, not the least of whom were those who had kept Intuit's stock price above the $71 Microsoft Corp. was said to be paying for the company. Many of them lost a lot of money when Intuit's stock opened last week at about 20 percent less than the previous Friday's close.

These Wall Street gamblers firmly believed in Gates' initial response, which was to fight the Department of Justice's plan to block the merger. They were confident Microsoft would prevail because Gates and others had said it would.

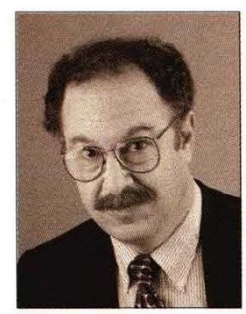
It is possible Gates would have won his battle with Uncle Sam's lawyers, earning the privilege to pay $2 billion for the maker of Quicken, MacInTax and other programs. But it is equally possible that Gates understood, in our industry's torrid pace of change, what was a sure thing at the time of the proposed merger had became much more speculative as the months wore on.

One event that may have changed Gates' opinion on the attractiveness of the deal with Intuit was a little-remarked-upon story about CyberCash Inc. This month the start-up company received permission from the government to encrypt financial transactions on the Internet — the only company so far to receive such approval. Further, CyberCash has the backing of Wells Fargo Bank, one of the nation's largest, to deposit and withdraw consumers' money, real money, not on-line chits or cyberspace play money.

This little company is now positioned to be the middleman for conducting safe financial transactions on the largest network in the world later this year. Gates wanted Intuit to help create this role on his as yet unreleased Microsoft Network. It's possible that he looked at the cost and delays in the Intuit merger in light of CyberCash's head start and decided the deal was no longer a good one. If that's the case, little CyberCash had better watch its back. Gates may be sneaking up behind it, armed with bags of cash to be deposited on-line or anywhere else. □

THE SECOND DECADE HENRY NORR

Product prospects key in weighing bus options



When I think about the GeoPort, I can't help but recall a never-implemented technology called PSI+. Back in 1992 and 1993, when the second-generation Power Macs that are due this summer were on the drawing board, Apple recognized that it had to replace the outmoded NuBus. The choice came down to two newer bus technologies: PSI+ and PCI.

The former was home-grown in Apple's own labs; the latter was conceived in the belly of the Intel beast. Not only was PCI Not Invented Here, it was also, by all accounts, appreciably inferior to PSI+ in performance. Yet Apple picked PCI.

Support is key

It's too early to pronounce a final verdict, but at the moment choosing PCI looks like the best design decision the company has made since going to RISC. By adopting a technology that was on its way to becoming a standard in the Wintel world (and following up with sustained evangelism among developers of PCI products), Apple ensured that buyers of the new Macs would be able to choose among an unprecedented variety of high-quality, aggressively priced expansion options.

I don't bring up this bit of Mac trivia to suggest that GeoPort is as isolated and poorly supported as PSI+ probably would have been. The high-speed serial interface has been shipping on high-end Macs for almost two years. Apple has already developed an extensive communications software architecture around it. And through the Versit alliance it has won the endorsement of key telephony players, including AT&T Corp., IBM Corp. and Siemens Rolm Communications Inc.

But despite all the differences in the situations, the principle that led Apple to choose PCI also applies in the GeoPort case: What customers require are solutions, not technologies. Other considerations — technical elegance, cost savings, strategic alliances — mean nothing if they don't translate into compelling products that meet users' needs.

One hand clapping

To date you can count the products that take advantage of GeoPort on the fingers of one hand. Apple's own GeoPort Telecom Adapter kit has several attractive features, but when you get down to basics, you can get a 14.4-Kbps hardware fax modem for half the price; the company itself still bundles one in its Performa 6100-series packages. With last fall's announcement of the Versit alliance, Apple promised an array of new telephony products, but there's still no concrete sign of the ISDN (Integrated Services Digital Network) and PBX pods promised two years ago. And, as reported in last week's MacWEEK, third-party support seems increasingly shaky.

If, when 1997 rolls around, GeoPort-equipped Macs will support a richer selection of serial-port options — in terms of variety, quality and price — than Wintel machines with the new Universal Serial Bus, then Apple should proceed full throttle in its current directions. If not, wouldn't it make sense to start shifting gears now? □

Henry Norr, editor emeritus of MacWEEK, welcomes feedback in the MacWEEK forums on CompuServe or eWorld or at hnorr@ftp.macweek.ziff.com.

LETTERS

A computer that has it all

I look forward with great anticipation to the upcoming Copland OS, Taligent and, to a lesser extent, Windows 95.

However, I thought that I would share with you a computer and OS that I recently purchased that seems to offer everything that is currently in vogue or about to be.

It offers a multitasking, multithreaded OS with a slick graphical user interface. It supports drag-and-drop, hardware acceleration of graphics, true WYSIWYG and CD-quality audio. Its e-mail is multimedia-based, meaning you can drag and drop sound, text or movies and send them. It has all the necessary tools for product development and, as a matter of fact, offers object-based development tools, something that I see missing from OS/2, Windows 95, Windows NT and Copland. It has a mature OS release currently on System 3.3, with 4.0 scheduled for 1996.

It is called NeXT.

Tim Byars
Torrance, Calif.

Let's hear it for gigabytes

Your 1-Gbyte idea is good (MacWEEK, May 8, Page 3).

But about the successor to the floppy: What has happened to Sony's MiniDiscs? Wouldn't they be a nice standard?

They are small, good for road warriors and have a fair capacity of 140 Mbytes. They are also cheap, $15 each, which should drop as they become more common in the music/Walkman market.

I read somewhere that Apple planned a MiniDisc drive for the media bay in the PowerPC PowerBooks. Is that going to happen? Would it be possible to just kill off those annoying floppies once and for all?

Fredrik Falkman, owner/president
Animera
Gothenburg, Sweden

Zip In, SyQuest out

I just read your Insider article (MacWEEK, May 8, Page 3) and agree with most of the things you said.

My colleague and I are wrestling with the problem of what to purchase to replace our 50 or so ailing 44-Mbyte SyQuest drives. We have come to the conclusion that we will not fix any more SyQuests, mainly because you could almost buy a new one for what it costs to fix one.

We purchased several 128-Mbyte Fujitsu magneto-optical drives two years ago and found they were not cost-effective. The drives are still in the $700 range and up.

Now here is where I disagree with your opinion, mainly because we work differently here. Most of our users need removables for backups and use networks for file transfers. I think we need a different technology to fix our removable-storage problem. We are thinking of trying the Iomega Zip drives to aid us in this respect.

Another problem is that we are a government agency, and we get to make just one major purchase, in the fall.

We are then stuck, for the most part, with what we have until the following year and can't try out the new technology as it comes out.

This can be good and bad. It is my hope that the Zip drives pick up where SyQuest is leaving off because I really don't see us buying any more SyQuest drives any time soon.

Mike Shelby
Physical scientist
National Oceanic and
Atmospheric Administration
Silver Spring, Md.

It shoulda been a beta

I find it extremely humorous that Don Crabb is suggesting that Apple get OS alpha versions released (MacWEEK, May 8, Page 23) and Ric Ford is suggesting that Apple get its OS stabilized (Page 31). I can't imagine how we could ever reach a stable alpha OS. Yes, Apple's update to System 7.5 should have helped, but maybe they should have released it to the public as a beta. Put a big warning sticker on it saying that this update will enhance your OS but may make it a little more unstable.

I have not had the problems that others are having with the System 7.5 update, but I don't have a standard Mac either. It has 80 Mbytes of RAM and 5 Gbytes of disk storage. We mainly use Adobe products. But I have noted one problem. Using shareware with our systems, in particular Netscape 1.1N, tends to make the crashes more frequent.

David L. Thompson
Computer science department
University of Montana, Missoula

How to contact MacWEEK

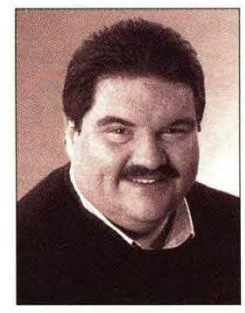
Send letters to MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; fax (415) 243-3651. We can be contacted on-line: CompuServe, 76077,1351; eworld, MacWEEK; MCI, 323-1203; Internet, letters@macweek.ziff.com. Include your name, address and phone number. We reserve the right to edit for clarity and length.

THE MAC MANAGER DON CRABB

In the game: Macs need to play with the other kids

Back to reality. It's time to snap out of our post-WWDC revelry, folks, and get down to business. Unfortunately for us, that business still has to include a healthy dose of "why we need Macs" every time our corporate colleagues attempt to convince us to switch over to the boring-as-hell Windows standard.

Although we're all freshly pumped by what we've seen and heard at the Apple Worldwide Developers Conference vis-à-vis Copland, OpenDoc, PCI 604-based Power Macintoshes, multiprocessing Power Macintoshes, clones and the Common Hardware Reference Platform, we need to stop a minute and take that reality check. Consider, for example, that while we were basking in the glow of all things Macintosh in San Jose, Calif., the rest of the computer world was having fun in La-La Land attending the E3 show.



That's entertainment

E3, also known as the Electronics and Entertainment Exposition, was a very big deal with tons of CD-ROMs, games and a mind-boggling array of exhibits by game publishers, set-top box makers and big-time computer companies.

Unfortunately, those big-time computer companies with the exciting exhibits did not include our friends in Cupertino.

Indeed, of the hundreds (perhaps thousands) of personal computers in evidence at E3, the number of Macs could be counted on two hands, with fingers left over. And those Macs could be found almost exclusively at Apple's own booth — reported as "dull" or "boring" by some of my trusted observers.

Reports on the old boob tube last weekend confirmed the above: You wouldn't even know Apple was involved in making game machines (Yo, Pippin!), set-top boxes or killer Power Macs for playing the latest and greatest CD-ROMs. Cable News Network, NBC and even Comedy Central provided taped and live coverage of E3 with exactly zero reports about Apple among them.

Nor, of course, did the WWDC secret decoder ring conference generate even a bit of curiosity from the mainstream media.

If all of this weren't bad enough, the Interactive '95 show, which popped up in Anaheim, Calif., as E3 closed in L.A., also failed to register a Mac presence. While not as big a deal as E3, this computer-based training-themed show that revels in multimedia should have been an Apple showcase. But nooooooooo.

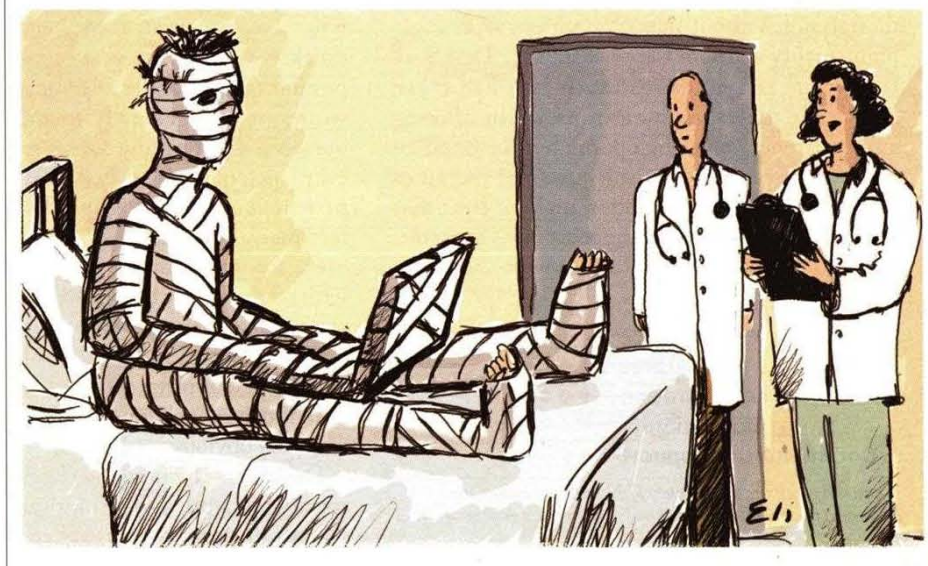
E is for excitement, too

Let me take the gloves off here (and you thought they were already off) and lay it on the line. At WWDC, Apple did an overall good job of giving its developers a framework for the next year. That's not enough.

While proselytizing to us, it should have been kissing up to the computainment industry and running about a jillion bucks' worth of TV and print ads extolling the Power Mac's coolness while showing what a sorry piece of crap Windows 95 is.

Damn it, Apple. This ain't rocket science. Get out there and get everyone excited again about your technologies and your products. Take a chance, will ya? □

Don Crabb welcomes comments at his Internet address decc@cs.uchicago.edu. You can also check out his home page at http://cs-www.uchicago.edu/~decc/.



"It's safe to assume this is a work-related injury."

Comments? Ideas? Contact Eli at elitoons@aol.com

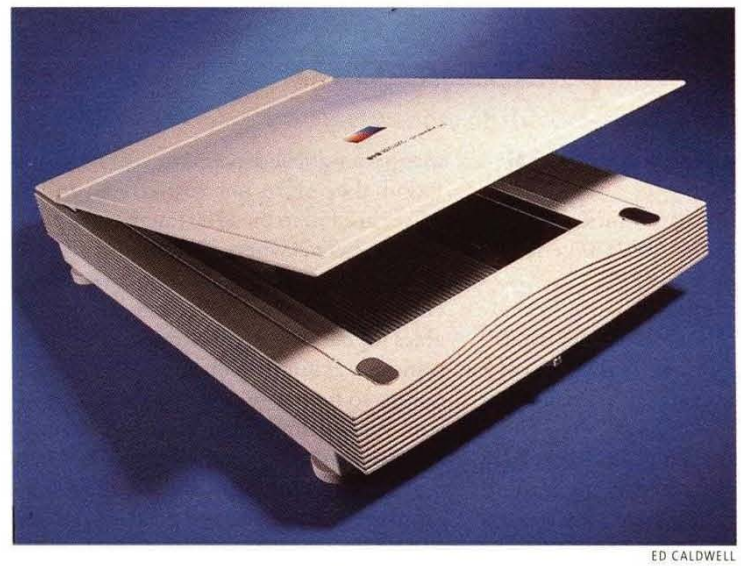
SCANNER CONNECT

About 3.5 percent of the Mac installed base is connected to a scanner of some type.

— BIS Strategic Decisions Inc.

HP ScanJet 3c produces quality 30-bit color scans

By Bruce Fraser



ED CALDWELL

HP's ScanJet 3c color scanner features an optical resolution of 600 pixels per inch and an engine that is considerably faster than the ScanJet IIcx, which it replaces. The scanner captures images at 30 bits per pixel.

Successor to the ScanJet IIcx has the same software but a better and faster engine.

The ScanJet 3c is Hewlett-Packard Co.'s long-awaited replacement of the venerable ScanJet IIcx. The $1,179 color scanner boasts increased resolution — optical resolution of 600 pixels per inch and interpolated resolution up to 2,250 pixels per inch. It also offers built-in sharpening and captures 10 bits per pixel per color internally. It ships with the same DeskScan II software as its predecessor but features an engine that is considerably faster than the IIcx's.

With the ScanJet 3c, HP is addressing the general business market and, to a lesser extent, the graphic arts market. Bundled software includes Adobe Photoshop 2.5 LE, Calera Corp.'s WordScan OCR software and HP's ScanJet Copy, a utility that lets you turn your scanner, computer and printer into a (very expensive) personal copier. Optional extras include a $559 automatic document feeder and a $759 transparency adapter. (We tested the latter.)

Setting up the scanner was a simple process; we performed our first prescan in less than 10 minutes. The ScanJet 3c has an integrated shipping lock, so there are no brackets to lose; a push-button switch for SCSI ID; and a two-position switch for SCSI termination. The scanner also comes with one 25-pin and one 50-pin SCSI port and comes supplied with a 25 to 50 pin SCSI cable.

score card

ScanJet 3c

Hewlett-Packard Co.
List price: $1,179*
Overall value ◆◆◆◆

Hewlett-Packard's new ScanJet 3c boasts 600-pixel-per-inch optical resolution and captures 10 bits per color internally. The scanner engine, though not without flaws, provides surprisingly high-quality scans for the price, but the DeskScan II software can hinder as much as it helps. HP gives a nod to the graphic arts market by offering a transparency-scanning option, but the bundled OCR and ScanJet Copy software and the automatic document feeder option make it clear that general business users are the company's main target for the ScanJet 3c. For that audience, it is eminently suitable.

Performance	◆◆◆◆
Features	◆◆◆
Configuration	◆◆◆◆◆
Compatibility	◆◆◆◆◆
Documentation/support	◆◆◆

**Optional transparency adapter, $759; optional automatic document feeder, $559.*

Key ◆◆◆◆◆ *Excellent* ◆◆◆◆ *Very good* ◆◆◆ *Good* ◆◆ *Fair* ◆ *Unsatisfactory*

DeskScan

The DeskScan II software can function as either a stand-alone application or as a Twain Acquire module. So far, it's the only implementation of Twain we've seen work reliably on the Macintosh.

The software allows you to get reasonably good, if somewhat oversaturated, scans very quickly. Getting the best scans possible takes considerably more work, and we generally found ourselves fighting the software every inch of the way. For inexperienced users, DeskScan II offers many conveniences. However, for those more familiar with scanning, the lack of an on-screen densitometer to sample pixel values and the absence of curve-based adjustments for the individual color channels will be painfully obvious.

DeskScan II doesn't let you specify bit depth and resolution directly. Instead, you must select either a predefined Image Type and Printer Path or define custom ones. Printer Paths can include a custom closed-loop calibration, which you perform by printing a target generated by DeskScan II and then scanning it back in. This works very well with black-and-white printers, but it's much less successful with color printers.

Like all the other HP scanners we've used, the ScanJet 3c oversaturates color, particularly in the reds. This tends to sabotage the color calibration, particularly for dye-sublimation or high-quality color lasers that are capable of rendering delicate pastels.

Noise annoys

Another limitation on the calibration is the scanner itself. Simply put, flatbed scanners aren't very good colorimeters, and the ScanJet 3c is no exception. It displays much less noise than its predecessor, although noise is still a problem in shadow areas. But the most glaring trait it shares with previ-

See ScanJet, next page

SoftArc FirstClass 2.6 grows into complete e-mail system

By Sean Wagstaff

What started as a BBS has evolved into a cross-platform conferencing application.

SoftArc Inc.'s FirstClass began life as a standard BBS, but recent upgrades have helped transform the program into a full-fledged corporate e-mail solution. The latest release, Version 2.6, offers high-performance e-mail, threaded group conferencing, a powerful complement of permissions and security controls, and gateways to a variety of information conduits. Version 2.6 also includes TCP/IP support via the new $995 TCP/IP Protocol Module, which allows the server to be accessed transparently over the Internet.

FirstClass, which starts at $95 for the server and $395 for five LAN-based or 50 remote users, offers a robust set of connection options for both Mac and Windows users. For our review, we set it up as a multiline dial-up and LocalTalk mail server with the optional TCP/IP Protocol Module. In our tests, conducted over a period of a few months, we found it to represent a serious challenge to other Mac e-mail systems.

Installation

The FirstClass server is surprisingly easy to set up; administrators should have little trouble if they follow the documentation. It's also easy on the hardware budget. For our FirstClass server, we used a Mac II with 5 Mbytes of RAM, a four-port Hurdler serial board from Creative Solutions Inc. and a 500-Mbyte hard disk — hardly a bank buster. Large installations will call for faster hardware, larger and faster disks, and more RAM, but we found FirstClass to be extremely conservative in its hardware needs.

FirstClass uses a key disk serialization scheme for licensing, so after installing the

See FirstClass, next page

Inexperienced users will find the DeskScan II software easy to use, but those who want more control over their scans will be frustrated.

ScanJet

From previous page

ous HP scanners is lamp fluctuation.

Even when we invoked the option that allows the lamp to warm up before scanning — which adds about 10 seconds to the scan time — we found considerable variations in the lamp over the course of the scan. Scanning the white inside of the lid proves quite instructional in this regard. We also noticed significant fall-off in brightness at each end of the scan head's travel and some hot spots along the edges, both almost certainly because of reflections within the body of the scanner. We also noticed a fair amount of mechanical jitter, which shows up as a pattern of horizontal streaks.

We hasten to add that none of these problems is readily apparent when you scan normal images — you have to look for them — but they do limit the accuracy you can hope to achieve using any kind of calibration. The noise level of the ScanJet 3c is quite low, particularly for a scanner in this price range, but the jitter, the lamp fluctuations and uncontrolled reflections are a bit disappointing.

> As a general business scanner, the ScanJet 3c is great; as a graphic arts scanner, it shows promise.

Jet-speed scanning

The ScanJet 3c is quite speedy, although we found the scanning times stated in the manual to be excessively optimistic. For instance, the documentation gives a scanning time of 30 seconds at 600 pixels per inch for a letter-size page and the caveat that "actual scan time may vary depending on your system and selected image-processing options." Using a Power Mac 8100/80 with 136 Mbytes of RAM, we found that the best time we could get on a 600-pixel-per-inch 4-by-5-inch image was about 80 seconds, which still puts it among the fastest scanners in its class. Engaging the built-in sharpening more than doubled the scanning time. Scanning into Photoshop via Twain proved slightly faster than using DeskScan II as a stand-alone application.

Transparency adapter

We found the transparency adapter to be of limited use. The scanner has neither sufficient resolution to handle 35mm slides nor enough dynamic range to pull significant shadow detail out of high-contrast transparencies. Further, the results with negatives were barely usable. (The word "negatives" appears once in the manual, in a sentence that indicates that you can scan them, but it doesn't explain how.)

Documentation and support

The ScanJet documentation is fair; there's plenty of it, but it doesn't go into much depth. HP's technical support includes a fax-back line, a toll-free phone line that features recorded answers to commonly asked questions, and a variety of toll-free and for-fee support lines. The company is also present on several major on-line services, including CompuServe.

Conclusions

As a general business scanner, the ScanJet 3c is great. The hardware shortcomings are unlikely to translate into meaningful problems when you're printing to typical business color printers, and the DeskScan II software, once mastered, is easy enough for inexperienced users to achieve acceptable results quickly.

As a graphic arts scanner, the ScanJet 3c shows promise. The engine can pull good shadow and highlight detail out of reflective art. The DeskScan II controls, however, are very blunt instruments, and adjustments made using one set of controls affect all the others. Scanner novices may find this software easy to use, but those who desire more control over their scans will be frustrated. The transparency adapter is disappointing; it's mainly useful for for-position-only scans.

Regardless of these reservations, the ScanJet 3c is a lot of scanner for the price. It has a better engine, despite the flaws, than any other scanner in its class. If you liked the earlier Hewlett-Packard scanners, you'll be quite happy with this one. Even if you're not a fan of DeskScan II, the improvements in the engine may be enough to make up for the software's shortcomings.

Hewlett-Packard Co. of Palo Alto, Calif., can be reached at (208) 396-2551 or (800) 722-6538; fax (800) 333-1917. □

FirstClass

From previous page

main application, we had to feed in several floppies to upgrade the server for additional users, gateways, modems and TCP/IP support.

A single server can support simultaneous connections on multiple networking protocols, including LocalTalk, EtherTalk, IPX, ISDN and TCP/IP. Built-in support for modem connections means that remote users don't need Apple Remote Access or special client software to connect. The same client software works both locally on a LAN and remotely via modem.

FirstClass comes with its own effective gateway system for linking many LAN-wide FirstClass systems together and for establishing dial-up links between servers. SoftArc recently shipped Version 2.0 of its $495 Unix to Unix Copy Program gateway for sending and receiving Internet mail and Usenet news over FirstClass.

In addition, a number of third-party products are available that expand FirstClass' capabilities, such as TGF Technologies' FirstConnect, which lets you use FirstClass as a front end for SQL database access, and Information Access Technologies Inc.'s HoloGate gateways, which help create links between FirstClass and other popular e-mail packages, such as CE Software Inc.'s QuickMail, Microsoft Mail, and Casady & Greene Inc.'s SnapMail.

Administration

FirstClass comes preconfigured for a typical generic work environment, but it's up to the administrator to set up Permissions Groups and add users to the system. Permissions can be assigned to individuals, but it's far easier to process groups.

By modeling a group to have a certain set of privileges and adding users to the group, you attach the privileges to those users. A user can belong to several groups; for example, one user could belong to Network Users, Business Office and Accounting. The Permissions feature extends throughout the FirstClass system. You can assign various levels of access to a user or group for individual conferences.

Unfortunately, the FirstClass server does not offer support for automated backups. Currently, setting up a regular automatic backup requires using a macro tool, such as CE Software's QuicKeys, to shut down the server, launch the FirstClass Tools application, make a PostOffice backup and launch a backup application such as Dantz Development Corp.'s Retrospect.

The program also currently lacks provisions for reporting on system activity, mail volume, who is using the most server space and call history for gateways. Some third parties are beginning to provide tools for monitoring these details, but it's an area where SoftArc could really improve the program.

One excellent feature is that FirstClass can be administered via any type of connection, so remote administration is no problem.

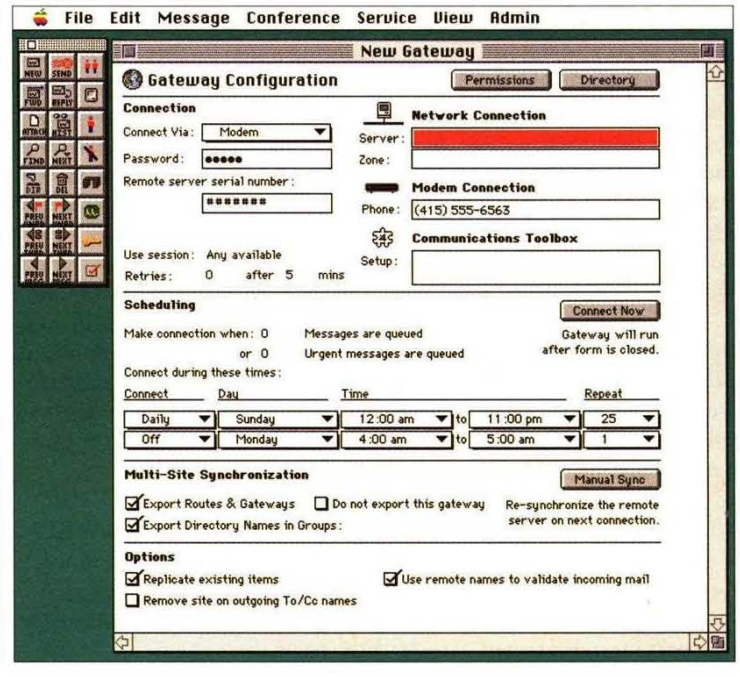
E-mail and conferencing

On the client side, one of FirstClass' greatest strengths is its crisp graphical user interface. When you log in, you'll see your mailbox and any group conferences you have access to represented as folders in the Desktop window, which looks much like a Finder window. A red flag appears next to any folder with unread messages. A Tools palette contains buttons for basic mail handling chores such as attaching files to messages and navigating through conference threads.

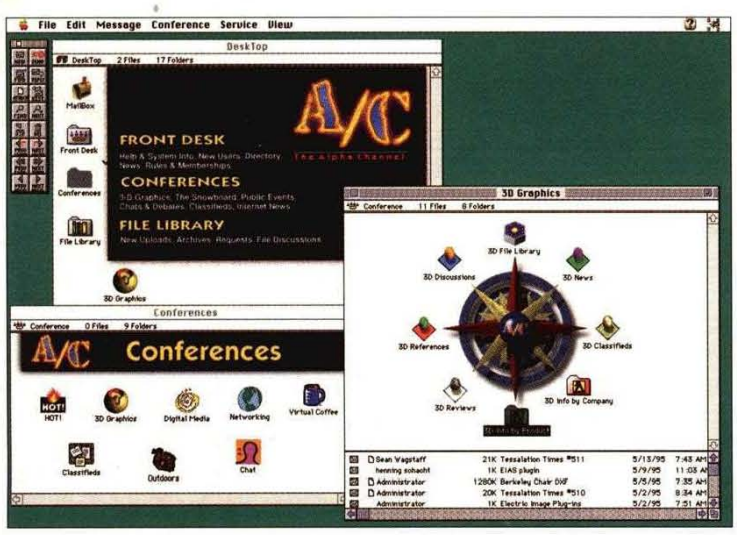
E-mail and group conferencing are intertwined in FirstClass. Conferences are sections usually organized by topic (such as Budget Discussions) to which anyone with access can post or read messages. Your mailbox is simply another conference that anyone can send mail to but only you can access. When you address a mail message to an individual, you can also carbon-copy it to a conference. When you create a message in a conference, you can add to or change the address to any user or other conference. We think this is an extremely effective method for handling messages.

When you need to send a private posting to several people, FirstClass makes one

See FirstClass, next page



Gateway administration in SoftArc's FirstClass 2.6 is straightforward, letting you establish either a network or dial-up connection and schedule specific days and times when the connection should be turned on and off.



This screen shows a 3D Conference, nested within Conferences, which is located on the user's FirstClass desktop. The Tools palette (far left) contains buttons for basic mail-handling chores, such as navigating through message threads.

FirstClass

From previous page

copy of the message, which is kept in the FirstClass Post Office on the server, and sends aliases to each user in the address list. A message is deleted during periodic trash collection only after all users have deleted the message's alias from their mailboxes. Conference messages work the same way.

Aliases are also helpful for creating cross-indexed conferences and folders that can help users navigate the system. However, administrators may have to get used to a proliferation of aliases on the system. When the administrator deletes a message, folder or conference, the corresponding aliases are not removed from various users' desktops or mailboxes, which can lead to confusion. There's no automatic way for the administrator to snuff out these orphaned aliases.

File attachments in FirstClass work very well; the program easily handles multiple simultaneous downloads and uploads in the background. Messages sent via gateways, such as Internet e-mail or Usenet news, can be routed automatically to individuals as well as to conferences.

Some limitations

Unfortunately, FirstClass has fairly weak support for setting up group addresses — a strong feature in CE Software's QuickMail — requiring you to set up lists of users in a special folder on the desktop. There's currently no provision for adding the sender of a message to an address list, and there's no way to easily view address lists or select only some of the users on a list when sending a message.

FirstClass also lacks an effective system extension or other means of notifying unconnected users when they have received new messages. Another limitation, which SoftArc said it is working on fixing, is the lack of an off-line messaging system for creating and reading messages while disconnected from a FirstClass server. Greg Neagle's $25 shareware product, BulkRate, is a solution for users dependent on dial-up access, but it may not meet the demands of corporate administrators.

While users of the FirstClass client on both Mac and Windows platforms seemed quite comfortable with its ease of use in our testing, some of the features in the Mac client, such as support for styled text in messages, are not supported in the Windows version, and color palettes don't translate very cleanly from the Mac to Windows.

Performance

FirstClass delivered excellent performance throughout our tests, more than meeting our expectations. The server handles many users without noticeable strain, file transfers are remarkably quick, and the system is extremely stable. We didn't have a single server crash or system error on the system we left running for well over three months with daily log-ins from more than 100 users.

One of the biggest surprises with FirstClass was that remote access via modem was almost as good as connections on a LAN. Similarly, we had very good success with TCP/IP connections over the Internet and found that file transfers and other functions were handled without a hitch.

Documentation and support

The FirstClass documentation is excellent, with all features clearly illustrated and explained. On-line documentation is also automatically installed in a Help conference when you set up a FirstClass server. Gateways and other add-on features are covered by their own manuals.

Technical support is also quite good and is provided via SoftArc's own FirstClass system, which is accessible via TCP/IP or dial-up connections.

Conclusions

FirstClass 2.6 is a very good messaging solution, offering an easy-to-use interface, excellent performance and a host of solid e-mail and conferencing capabilities. Because it has grown so rapidly from a standard BBS into a corporate e-mail system, however, it still has some flaws, such as limited message notification, group address handling and server administration options. Nevertheless, for those looking for a cross-platform mail and conferencing solution with seamless support for both LAN-based and remote users, FirstClass 2.6 deserves serious consideration.

SoftArc Inc. of Markham, Ontario, can be reached at (905) 415-7000; fax (905) 415-7151; FirstClass BBS (905) 415-7070; sales@softarc.com. □

score card

FirstClass 2.6

SoftArc Inc.

Overall value ♦♦♦♦ **List price: $95***

FirstClass 2.6 continues SoftArc's transformation of this product from a standard BBS to a full-featured e-mail program that seriously challenges competing Macintosh e-mail systems. Its greatest strengths lie in its integration of conferencing and mail features, seamless Mac and Windows cross-platform compatibility, excellent performance over LANs and via modem, and an intuitive graphical interface. SoftArc and third parties are steadily introducing new gateways, such as Unix to Unix Copy Program and database access, that add important new functionality to the system, while new TCP/IP support allows remote users to connect to FirstClass via the Internet. As the program continues to grow, however, it still has a few flaws, such as the lack of a commercially supported off-line reader and somewhat weak server administration and message-handling capabilities. Nevertheless, FirstClass remains a very strong package for cross-platform e-mail and conferencing needs.

Performance ♦♦♦♦♦ **Ease of use** ♦♦♦♦
Features ♦♦♦ **Documentation/support** ♦♦♦♦♦

**For one server. A five-LAN-based-user or 50-remote-user license is $395, and additional licenses are available for up to 1,000 users. The TCP/IP Protocol Module is $995; the IPX Protocol Module is $495.*

IN BRIEF

Strata MediaPaint

QuickTime movie painter adds particle animation tools

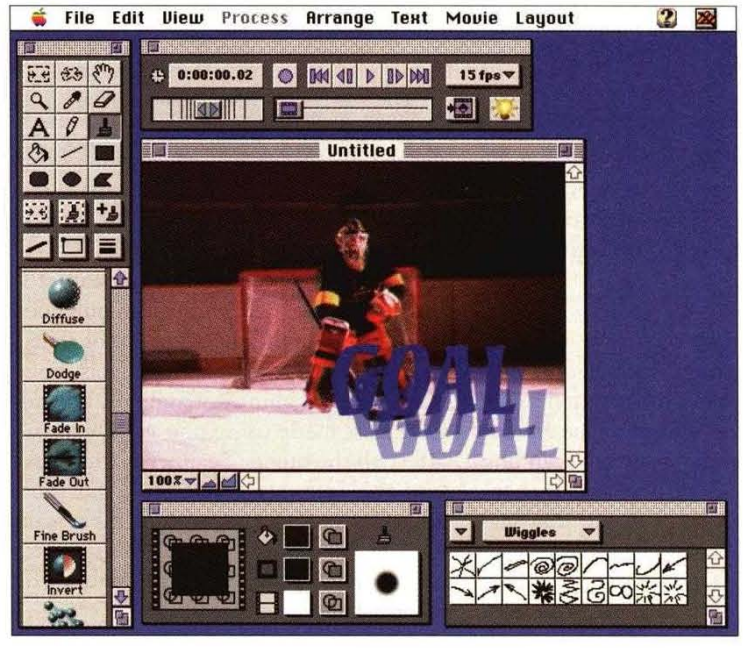
Overall value ♦♦♦

Strata Inc.'s MediaPaint takes QuickTime movie painting a step further with the addition of several new features, including particle animation tools, an onionskinning feature and chroma-key compositing. MediaPaint, which is a new version of Neil Media Inc.'s Video Graffiti, is $695, $300 more than its predecessor.

The application requires at least System 7 and a Macintosh II; it is Power Macnative. Although it will run in 6 Mbytes of RAM, you need at least 10 Mbytes if you want to paint on movies at 320 by 240 pixels per inch. MediaPaint itself needs about 4 Mbytes of disk space.

Painting by palette

Like Video Graffiti (see MacWEEK, April 25, 1994, Page 47), MediaPaint lets you paint onto individual frames of a QuickTime movie with traditional paint tools. You begin by opening an existing



For precise placement of images from frame to frame, the new Lightbox switch in Strata's MediaPaint (shown as a light bulb in the Movie Controls palette at top) lets you see any number of previous and following frames, each one slightly ghosted.

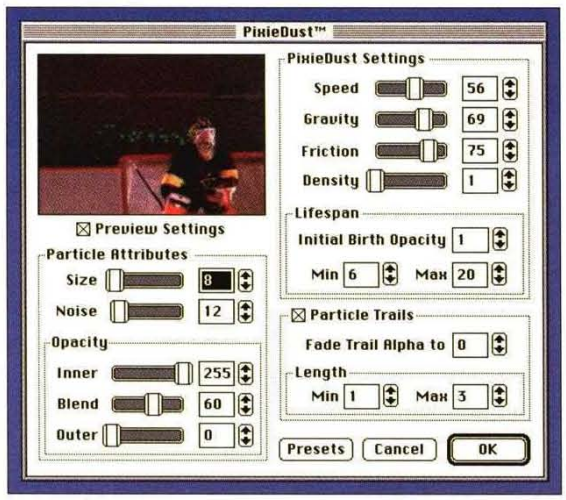
QuickTime movie; the first frame appears in a new window. Video Graffiti users will recognize the interface, which has changed little. It's somewhat palette-heavy, but you'll want to keep open at least the Tool, Movie Controls and Color palettes.

Painting on a frame is simple: You select a tool, choose a color and paint. When you've finished the frame, you can use the Movie Controls palette to go to the next one.

All painting in the application occurs on a Paint layer, which is separate from the underlying Movie layer. This approach allows you to erase and edit your painted graphics with no fear of damaging the original QuickTime image. In fact, it's impossible to directly affect the movie image, although you can copy part or all of the image to the Paint layer for manipulation. In addition, you can control the transparency of any paint.

You can load a PICT file or QuickTime

See MediaPaint, next page



PixieDust, one of Strata MediaPaint's unique new Particle tools, lets you automatically create a variety of sophisticated effects that apply showers of particles across your QuickTime movie frames. The program offers a number of parameters for customizing the effect and allows you to save your settings as presets.

MediaPaint

From previous page

movie into a separate layer using the Stencil layer. This layer can then be used as paint for MediaPaint's tools, allowing you to "paint in" the other movie to create composites. A new Chroma Key dialog lets you perform blue-screen compositing using the Stencil layer.

MediaPaint, like Video Graffiti, includes an Auto Copy switch that will automatically copy the current frame's paint to the next frame, letting you easily create incremental changes.

Seeing the light

A new Lightbox switch in the Movie Controls palette displays ghosted images of the previous frames, creating a simple onionskin feature that lets you see movement over several frames. This makes it much easier to position paint from frame to frame.

Other new additions include support for pressure-sensitive tablets and plug-in filters (including time-based filters, such as those used with Adobe Premiere), gradient brushes for painting with variable colors and a new Strokes palette.

The Strokes feature lets you paint a stroke and store it in a palette. The stroke can then be easily applied to any frame by simply clicking on it and placing it on a frame. This makes it easy to apply the same shape — a laser beam, for example — from frame to frame. We'd like to see the Strokes extended to become more object-oriented so that you could drag and resize the shape from frame to frame, as a stop-motion animator would manipulate a puppet.

Particle tools

MediaPaint's Particle tools — the program's most exciting new addition — offer the one feature that can't be done with any other program we've seen. Designed to create sparkles, highlights and other particle or "blobby" effects, MediaPaint's generators let you create paths of particles that are automatically painted onto the frames of your movie.

For example, with the PixieDust tool you can create Tinker Bell-like particles that travel along a user-defined path. Variable parameters include the speed of the particles, the strength of the gravity affecting them, the density of the cloud of particles and their life span.

In addition to the PixieDust generator, there's a BabyBoom tool, which creates self-propagating particles; the SpinOut generator, which creates wildly spinning particles; and the Squiggle tool, which creates wormlike lines that writhe on your screen.

Painting performance

Although MediaPaint's tools are competent for simple jobs, we were a little disappointed by their performance. The Paint Brush, for example, has difficulty keeping up with the user, producing frequent dropouts.

MediaPaint's biggest problem, however, is Fractal Design Corp.'s Painter. In the $499 Painter 3 (see MacWEEK, Dec. 12, 1994, Page 1), Fractal lets you paint directly onto QuickTime movie frames by using a simple interface that not only supports onionskinning but all of Painter's tools, as well.

Unfortunately for Strata, MediaPaint's tools can't compete with the power of Painter's painting tools. Compared with Painter's vast array of natural-media brushes and surfaces, MediaPaint's simple paint tools seem greatly underpowered and quite limited. And for about $200 less than MediaPaint, you also get Painter's image-editing capabilities.

Documentation and support

MediaPaint's technical support service is friendly and competent, but the manual is long on words and short on tutorial information. A QuickStart Guide, Quick Reference card, CD-ROM and training video round out the documentation. The CD-ROM contains a Tutorial folder with four lessons; strangely, these tutorials are covered only in the videotape. Although the videotape is good, we think a printed tutorial is more important.

Conclusions

Strata MediaPaint is a valuable tool for multimedia producers, letting them retouch, rotoscope or add optical effects to QuickTime movies. It improves on its predecessor, Video Graffiti, with the inclusion of several new features. However, with the exception of the Particle tools, MediaPaint's new features are available elsewhere — for a lot less. If Strata wants to capture the attention of multimedia users, it needs to make MediaPaint's features more worthy of its high price.

Video Graffiti users can upgrade to MediaPaint for $99.

Strata Inc. of St. George, Utah, can be reached at (801) 628-5218 or (800) 678-7282; fax (801) 628-9756; strata3d@applelink.apple.com. — *By Ben Long*

Cadmover 4.0

Translation package a must for CAD and 3-D users

Overall value ◆◆◆◆◆

Kandu Software Corp.'s Cadmover is a translation package aimed at CAD and modeling professionals who need to move their geometry between numerous applications and across platforms, and at designers who must get CAD work into EPS format for printing. The company recently shipped a native Power Macintosh version of Cadmover 4.0, a welcome upgrade for users who work with large files common to the CAD and 3-D markets. The $495 package also includes all of Kandu's available translators, which were expensive options in earlier versions.

Transferring 3-D shapes from one file format to another can be more daunting than building the models in the first place. While software vendors have tried to standardize 2-D and 3-D CAD formats, the existing open standards — including DXF (Drawing Interchange File), IGES (Initial Graphic Exchange Specification) and 3DGF (3-D Geometry File) — are strewn with potholes. For example, while one program may save data as 3-D polylines, another may only successfully read data that is stored as triangular faces or spline meshes.

Cadmover, to a large degree, insulates you from the intricacies of 3-D file formats. It can open and save the most difficult proprietary formats and provides very good support for standard formats.

When Cadmover opens a file, it reads in all of the available data; when it saves a file, it strives to make the best possible translation. For example, Adobe Illustrator uses Bezier curves to represent circular arcs, but many CAD programs don't support Beziers, so Cadmover translates Beziers into true circular arcs that a CAD program can read. Similarly, Cadmover can decompose surfaces into triangles. This is helpful because in many cases triangles are the lowest common denominator between CAD file formats.

A modeler's best friend

For 3-D geometry, Cadmover is a nearly universal translator. The documentation suggests sequences of translations (such as opening an IGES file and saving it as a DXF file) that support about 75 2-D and 3-D programs on Mac, Windows, DOS, Unix and mainframe platforms.

Cadmover is also very helpful for users who must get their 3-D geometry into print. In our tests it made the most of data in various vector formats. If your CAD package can save an EPS or PICT file of a hidden-line rendering, Cadmover can convert it to Illustrator format for editing, labeling and incorporation into a desktop publishing project.

We tested Cadmover 4 by opening and saving numerous file formats, including EPS, DXF, MiniCad+, Sculpt and IGES. In each case, we found a combination of an import and export setting that translated as much of the information as was possible between two programs. For example, we found it very easy to open a DXF file created with autodessys Inc.'s form•Z and save it in Diehl Graphsoft Inc.'s MiniCad+ file format.

Opening and saving 1-Mbyte drawings averaged about three to four times faster on a PowerPC-accelerated Quadra 950 than on the same Mac with the acceleration off. However, a 21.6-Mbyte DXF file that took four hours and 44 minutes to open on the Quadra 950 opened in just 38 minutes on the Power Mac. Translating files showed similar performance gains on the Power Mac.

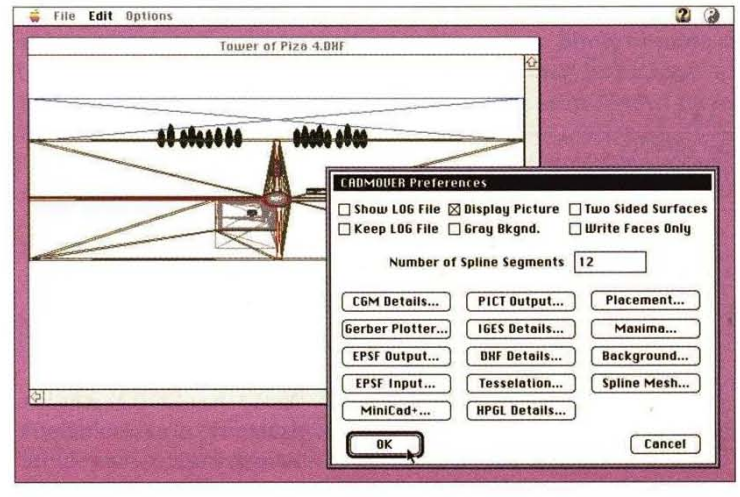
While Cadmover's documentation is quite good, the number of possible translations from one program to another is too huge for every scenario to be listed. The manual thoroughly explains various file formats but leaves the particulars of finding the right settings to the user. Kandu offers free telephone technical support for 60 days; the company is eager to crack problem files for users.

Conclusions

Cadmover 4 for the Power Mac is a one-stop solution for 3-D modelers and CAD users who work with several programs. The inclusion of all of Kandu's translators makes possible many previously impossible exchanges, and the Power Mac support translates into tremendous time savings.

Cadmover 4 for the Power Mac is free to customers who purchased the 680x0 version after April 15, 1994; $49 for other users of the 680x0 version. Users of versions 3.0 through 3.5 can upgrade for $200.

Kandu Software Corp. of Falls Church, Va., is at (703) 532-0213; fax (703) 533-0291; kandu@aol.com. — *By Sean Wagstaff*



Kandu's Cadmover 4 can open files created in almost any 3-D, CAD or PostScript drawing application. Cadmover's Preferences dialog lets users fine-tune parameters for both the import and export of supported file formats.

DATABASES

Growing DBMSes with users' needs

By Larry Stevens

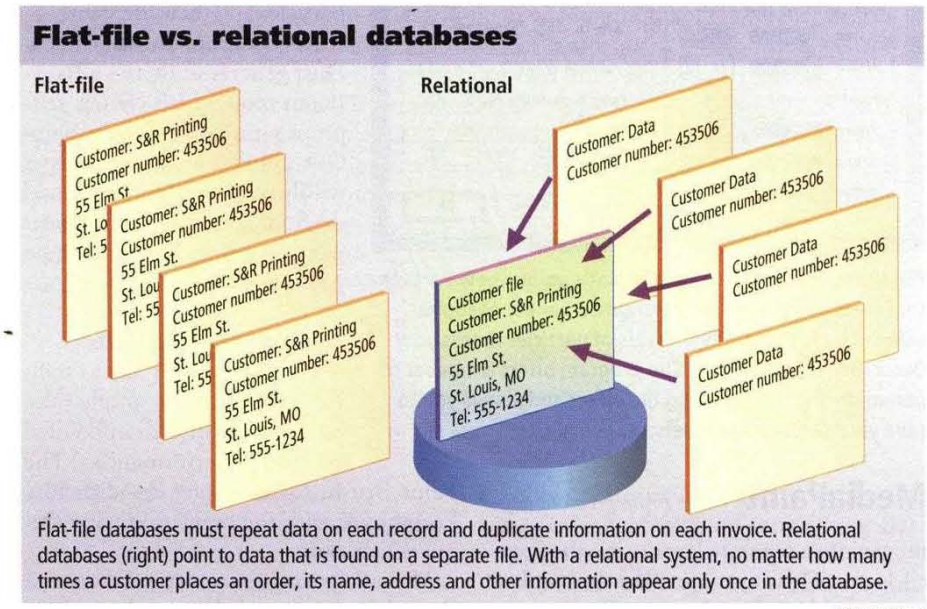
Relational databases are taking over where flat-file systems have left off.

Databases have the widest range of any Macintosh application in cost, functionality, complexity and training requirements. Of the standalone packages, there are two options: a flat-file or a relational database.

Flat-file databases maintain data within the individual records. So each bill in an invoicing system contains all the customer and product data that has been entered. However, flat-file databases have a rigid structure. If your invoice has spaces for 10 purchases, the program reserves space to list 10 products even though most invoices may need fewer.

Relational databases, by contrast, separate the data from the records. When you enter a customer name or number on an invoice, the program searches the appropriate table, finds the customer information (name, address, phone number) and places it on the invoice. But while the data retrieved from tables is displayed on each invoice, it isn't saved in them. The invoice contains only pointers to the appropriate data. So if a customer places 1,000 orders, a relational database would contain 1,000 records (of the invoices) for that customer. But all 1,000 invoices would point to the single customer-information set, which would, therefore, have to be saved only in one place in the database.

A flat-file database would have to save 1,000 copies of the customer-information set, one for each invoice. The end result is that relational databases are more compact, efficient and flexible than flat-file databases, which are limited in their capability to grow in size or increase in complexity. As a result, flat-file databases are becoming a thing of the past; witness Claris Corp.'s plans to release a new version of FileMaker Pro that will maintain its flat-file origins but migrate toward a relational database structure.



Flat-file databases must repeat data on each record and duplicate information on each invoice. Relational databases (right) point to data that is found on a separate file. With a relational system, no matter how many times a customer places an order, its name, address and other information appear only once in the database.

NEVIN BERGER

Rolling your own

Glenn Cobb, president of Micro Data Management Resources, a Battle Creek, Mich., developer of database-management systems, said that about 80 percent of his customers first tried to create their own databases using FileMaker Pro, the primary Mac flat-file database. Some users were initially successful but needed more functionality as their businesses changed. Others found that as the database grew, their flat-file applications slowed down intolerably. Still others were too ambitious about what could be accomplished using FileMaker Pro in the first place. But whatever the reason, "they'd hit a wall and called us in to fix it," Cobb said. So why would a company ever choose to use a flat-file database? There are three reasons: lower cost, gentler learning process and easier development.

"We can train people to use FileMaker Pro in about two hours. It would take months to teach someone to program a relational database," said Eric Gustafson, manager of Advanced Intelligent Network, Future Methods of Operation Prototype for U.S. West Communications Inc., a telecommunications company based in Denver.

While U.S. West's use of FileMaker Pro is critical and strategic, Gustafson doesn't use it to maintain a large database, for which it would be inadequate. Instead, the company uses it to create prototypes of system support for new services.

Gustafson explained that in the past his company would require three to five years to take a new product from the conception stage to a final rollout. Now it brings out new services in about six months. For example, U.S. West recently developed a service for a nationwide pizza delivery company. Customers around the country call a toll-free number, and before the phone is answered, a U.S. West computer determines the pizza store closest to the caller by matching the telephone exchange number with a geographic listing of stores. The call is then routed to the closest store.

To set up this kind of service, every phase of development has to be efficient. So software engineers are given a working model of the system, which is built with FileMaker Pro. "Now we tell [the system engineers] what they need to do, and to be sure they understand, we give them a prototype," Gustafson said.

Developing a relational database is much like standard computer programming. Because he knows how difficult database programming is, Jeff Loewer, manager of technology information systems at Colgate Palmolive Technology Center in Piscataway, N.J., was determined to purchase a system that would ease the development task and best use of the Mac's graphical interface. "We looked at a number of packages back in 1989, and [ACI U.S. Inc.'s 4th Dimension] was the most Mac-like." he said. He added that the program makes it easy to build menus, windows, radio buttons, pop-up menus, check boxes, and scrolling text-entry or text-display areas, all of which make the system easier on end users.

Help desk

Colgate Palmolive has developed a number of databases to assist help-desk personnel log calls and track problems. It also uses 4D-based databases for inventory control and to create schedules for its ride-sharing program. "Its applications are limitless as long as we're willing to put in the development time," Loewer said.

For those who need to expand beyond FileMaker Pro but who are not prepared to learn (or pay for) a full-featured relational database, ACI offers 4D First. This subset of 4D provides many of its capabilities, but 4D First is much easier to learn. And the cost, relative to most other databases, is a pittance. The program, which limits you to 10 files per database application, includes templates, which make it easy to create simple programs. And, unlike FileMaker Pro, you're not locked into a limited application. If you outgrow 4D First's capabilities, you can expand by porting the files into 4D.

Thinking in icons

More than any other DBMS, Helix Express allows you to develop your database using a point-and-click, graphical interface. For example, when you open the applications, a desktop replica, which includes the Trash and a number of other icons, appears on your screen. If you want to form views and files, you insert a Relations icon; to calculate field values, you insert an Abacus icon, and a Sequence icon sets up procedures. "It's an extremely efficient way to program," said Gregg Sanderson, president of Breakthrough Productions in Nevada City, Calif.

Breakthrough does custom programming and publishes Market Master, a sales automation program based on Helix Express. According to Sanderson, the main advantage of Helix Express is that it not only allows for quick development, but it also makes for easy alteration of the database.

"We've been consulting for over 20 years, and I have yet to meet a client who

See Solutions, next page

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MACINTOUCH RIC FORD

Looking for lost icons, AMO fix and MEO tricks

It has been more than half a year since Apple released System 7.5 with Apple Menu Options 1.0, a control panel that puts hierarchical menus and aliases of recently used files under the Apple icon.

A bug, which apparently did not bother enough customers to get squashed quickly, has just been documented and evidently fixed by Apple. It causes menus to disappear off the left end of the menu bar if the user clicks at the wrong time or in the wrong place, losing such useful menu options as Quit and Save.

Generic icons appear on the desktop in place of the proper, graphic icons.

Apple Menu Options 1.0.2, the repaired version, supersedes Apple Menu Options 1.0.1 from System 7.5 Update 1.0, which in turn superseded Apple Menu Options 1.0 from System 7.5.

The new file is available from Apple's on-line information services.

Lost icons

Another bug has been bothering people more frequently of late, although it has far less impact: Generic icons appear on the desktop in place of the proper, graphic icons that identify a file's type.

One culprit is Apple's own system software CD-ROM. According to an Apple Tech Library note ("System 7.x: Generic Icons After Installing"), the "bundle bits" were set incorrectly in Version 2.0 of the System 7.5 CD-ROM that is bundled with Power Macs. The note suggests removing the Power Mac 8100/110 system enabler, if you do not have that model, and rebuilding the desktop. The problem can also be fixed by changing bundle bits with a disk-editing utility (see the Tech Info Library for details).

A separate note in the library ("Power Macintosh: Generic System, Finder & Enabler Icons") describes a problem that may or may not be the same one.

Other generic icon problems are because of design deficiencies in the Mac OS (see "Generic Icons: Applications on Removable Media" in the Tech Info Library). For efficiency, the Finder stores icon information only for applications, not for all documents and aliases.

When an application is not on the same volume with its related documents or aliases, their icons can turn generic, depending on the order in which volumes are mounted on the desktop. There is no elegant solution for these problems, but you can juggle mounting order and the location of applications.

GORDON STUDER

MEO tips

As previously noted, Macintosh Easy Open can also cause generic icon problems (see MacWEEK, Oct. 3, 1994, Page 43).

DataViz Inc.'s MacLinkPlus file-conversion product is based on Macintosh Easy Open, and Scott Thomas of the company's marketing department e-mailed some tips for working effectively with MEO. DataViz is also following up on the problems another reader reported previously, in which canceling an Easy Open-triggered desktop rebuild corrupted data structures on the disk (see MacWEEK, May 8, Page 31).

In solving MEO problems, DataViz recommends first deleting the Easy Open Preferences file (in the Preferences subfolder of the System folder). Then rebuild the desktop by holding down Command and Option keys, starting the Mac with all extensions except MEO disabled. Restart one more time after reaching the Mac desktop. (This may trigger an additional desktop rebuild.)

Especially difficult problems may require completely deleting the Desktop DB file with the help of a disk editor, such as Norton Utilities or ResEdit, before rebuilding the desktop.

Thomas warns that the presence of older MEO 1.0x files can cause problems when running MEO 1.1x. In this case, the older extensions and their Macintosh Easy Open Setup control panel must be deleted before the desktop rebuild.

Anti-crash medicine

In chasing System 7.5.1 crashes and freezes, other problematic components and triggers are turning up. Here are a few tricks to try for isolating problems:

- Disable virtual memory and RAM Doubler; swap or replace RAM SIMMs.
- Try removing Thread Manager 2.0.1 (or replacing it with Version 2.1 from Apple's developer CD-ROM).
- Try removing ATM, SuperATM and all fonts temporarily, re-installing only standard Apple fonts.
- As a last resort, try turning off Modern Memory Manager in the Memory control panel on Power Macs (especially with old, unusual applications). □

Comments on MacInTouch are welcome at 7 Parmenter Ave., Maynard, Mass. 01754. Phone (508) 897-2621. Please address e-mail to 72511,44 on CompuServe or ricford@macintouch.com on the Internet. The MacInTouch home page is at http://www.macintouch.com/~ricford/.

SOLUTIONS

From previous page

knows what he or she wants. You deliver a project, and the client says, 'By the way, wouldn't it be great to have a separate field for such and such?' "

Sanderson said that because of its graphical nature, Helix Express applications are so easy to reconfigure that he is usually able to work on a fixed-rate basis, not charging extra for minor changes. In fact, while he rarely does so, he said he can guide clients over the phone to make small changes.

Microsoft FoxPro for Macintosh has as its main advantage Microsoft Corp.'s well-known cross-platform capability. Anything you develop in the Mac, DOS, Windows or Unix versions can be run without modification in any other version.

FoxPro lightens the job of database programming through the use of wizards. Pioneered in Microsoft Excel, these allow you to perform complex actions just by answering a set of questions. Microsoft FoxPro has wizards for, among other things, creating a new database, making a SQL query, creating mailing labels, generating reports and building data-entry screens.

FoxPro comes in two versions: standard and professional. The professional edition includes a number of developers tools, such as a library of C routines and a connectivity kit, which lets you connect to SQL-based servers.

Get info

Omnis 7 from Blyth Software is by far the most expensive Mac DBMS. It has the most complex, as well as the most complete, programming environment. Like Microsoft FoxPro, Omnis 7 is cross-platform. However, while Omnis 7 is a self-contained database, most companies use it primarily to develop a front end to a large SQL database such as Sybase, Oracle or DB2.

Blyth's newest product, TrueAccess, is not a stand-alone database product, and it lacks the database aspects of Omnis 7. It does, however, have the capability to access client-server databases by creating windows so that users can query the database.

Hank Mahler, information system analyst at hardware and software maker Tandem Computers Inc. in Cupertino, Calif., used Omnis 7 to create an executive information system, which accessed data on Tandem's proprietary Nonstop SQL database. The system allows executives to easily navigate through the database to access critical data. Mahler is also currently working with TrueAccess to create a medical-records system.

According to Mahler, the main advantage of Omnis 7 and TrueAccess is that they "assist us to create systems that help users to get the information they need by themselves." Without the front end created by the products, users would have to rely on the IS department to generate reports. □

PRODUCT INFO

ACI US INC.
4th Dimension 3.2: $895; **4D First 1.2:** $99
Cupertino, Calif.
(408) 252-4444; fax (408) 252-0831;
d4444@applelink.apple.com

BLYTH SOFTWARE
Omnis 7 3.0: $5,000;
TrueAccess 2.0: $2,499
Foster City, Calif.
(415) 571-0222 or (800) 346-6647;
fax (415) 571-1132

CLARIS CORP.
FileMaker Pro 2.1 for Macintosh and Windows: $99; **ClarisWorks 3.0:** $129
Santa Clara, Calif.
(408) 727-8227 or (800) 325-2747;
fax (408) 987-3932; http://www.claris.com

HELIX TECHNOLOGIES
Helix Express 3.03: $589
Prospect Heights, Ill.
(708) 465-0242 or (800) 364-3549;
fax (708) 465-0252; helixsales@aol.com

MAINSTAY
Phyla 1.0: $495
Camarillo, Calif.
(805) 484-9400 or (800) 484-9817, Ext. 6276;
fax (805) 484-9428; mainstay1@aol.com

MICROSOFT CORP.
Microsoft FoxPro 2.6 for Macintosh and Power Macintosh: $99.95 (standard edition), $469 (professional edition);
Microsoft Works: $99.95
Redmond, Wash.
(206) 882-8080 or (800) 426-9400;
fax (206) 936-7329

PROVUE DEVELOPMENT CORP.
Panorama 2.1: $395
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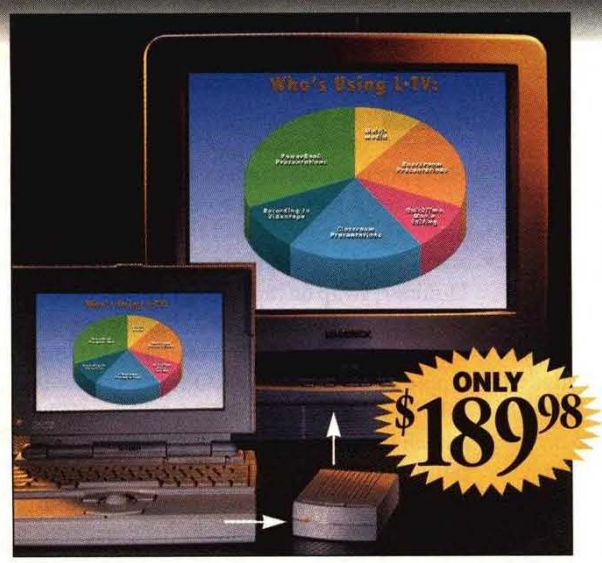

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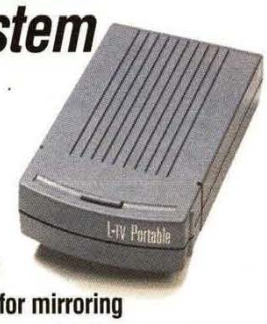
L/TV Portable



- Compatible with virtually all televisions and VCRs
- Weighs under eight ounces
- No software required for operation
- Supports VGA or built-in monitors for mirroring

If you use your computer for making presentations, teaching large groups, or creating multimedia applications for recording to videotape, you need the L/TV Portable. It allows you to connect your Macintosh to any standard television for large screen presentations at any setting. You'll enjoy the highest quality television output from your computer with proprietary flicker reduction. Use L/TV Portable to simultaneously display your presentation on your VGA monitor and TV. The L/TV Portable and L/TV Portable PRO come complete with all cables. FOCUS Enhancements ***#97868***

24-bit color and performance!

LapisColor LC 2421 24-bit Video Card

ONLY $469.98

- Compatible with most 13-21" monitors
- Standard Apple DB-15 video connector

The LapisColor LC 2421 video card is the perfect expansion tool for LC and Performa Macs. It's compatible with virtually any Macintosh or third-party color display and is easy to install. It features 3MB of VRAM yielding 24-bit video performance at any Apple video resolution. You can choose your bit depth – millions of colors for photos, thousands for graphics. Use with all systems with an LC-PDS type slot. FOCUS Enhancements ***#90821***

#90820 LapisColor 16 for LC $349.98

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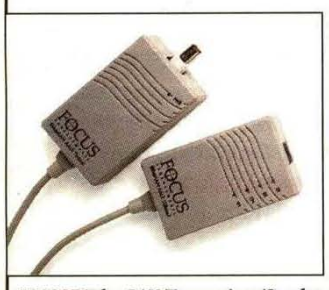

Plug into on-board Ethernet

EtherLAN Tr/FN-T

ONLY $38.98

Take advantage of Ethernet-ready Macs with FOCUS Enhancement's EtherLAN transceivers! They allow you to use the on-board Apple Ethernet ports in high-end Macs and Apple printers, so you can take advantage of Ethernet speed without the additional purchase of an Ethernet network interface card. They attach in seconds to any 10Base-T network. And for only $38.98, our best price on EtherLAN Transceivers, you'll want to place your order today. FOCUS Enhancements ***#94203***

#90807 EtherLAN Transceiver/Combo (Thin/10Base-T) . . $68.98 **#94202** EtherLAN Transceiver/FN (Thin) . $38.98

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The fastest Ethernet boards available for your Mac

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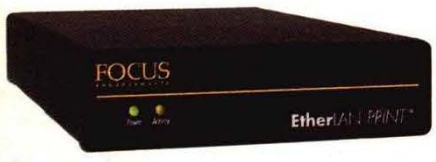
Macs Supported	Product	Connection	Order#	Price
Mac II (NuBus)	EtherLAN II	Thin	*#94206*	$79.98
Mac II (NuBus)	EtherLAN II-T	10Base-T	*#94207*	$79.98
Mac II (NuBus)	EtherLAN A1-II	ThickThin/10Base-T	*#94208*	$104.98
Mac IIsi & SE30	EtherLAN A1-IIsi & SE30	Thick/Thin/10T	*#94209*	$169.98
Mac SE	EtherLAN A1-SE	Thick/Thin/10T	*#94210*	$164.98
Mac LC	EtherLAN LC	Thin	*#94211*	$79.98
Mac LC	EtherLAN LC-T	10Base-T	*#94212*	$74.98
Mac LC	EtherLAN A1-LC	Thin/10Base-T	*#94213*	$104.98
All Macs w/SCSI	EtherLAN SC	Thin	*#90828*	$199.98
All Macs w/SCSI	EtherLAN SC-T	10Base-T	*#90829*	$199.98
All Macs w/SCSI	EtherLAN Mini-SC	Thin/10Base-T	*#90830*	$219.98



LocalTalk printers? Connect them to Ethernet

ONLY $274.98

EtherLAN Print

If you need an easy bridge between your LocalTalk laser printers and an Ethernet network, EtherLAN Print is the fast, plug-and-play solution. It works with any brand of LocalTalk compatible network printer and with other LocalTalk devices such as Macintosh computers. With a BNC connector for thinnet and an RJ-45 connector for 10Base-T, you'll have the ultimate in flexibility. It supports Phase 1 & 2 AppleTalk devices from any zone, and includes management software. Supports two printers. FOCUS Enhancements ***#94204***

#94205 EtherLAN Print Plus $344.98

Budget-priced hub!

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EtherLAN Hub9

The EtherLAN Hub9 is a stand-alone 9-port repeater hub with one thinnet connector and eight 10Base-T ports. Easy plug-and-play with no software needed. FOCUS Enhancements ***#18293***

#90813 EtherLAN Hub16 . . . . . $389.98

TurboNet LocalTalk

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TurboNet LocalTalk connectors improve and maintain the signal quality of your network. Features two LED traffic indicator lights. Connects with a Din-8 and two RJ-11 ports so you can daisy chain hardware. FOCUS Enhancements. ***#90808***

#90809 TurboNet 10-pack . . . $119.98 **#90810** TurboNet 50-pack . . . $499.98
#90811 TurboStar Controller $469.98

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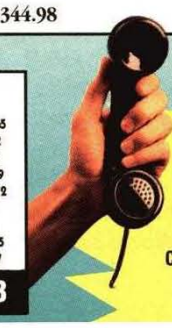

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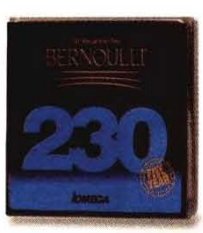
> **"All the cartridges are equally tough... When deciding among cartridges based on different technologies, examine your budget."**
>
> **- MacUser July, 1994**



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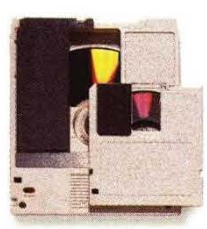
DAT



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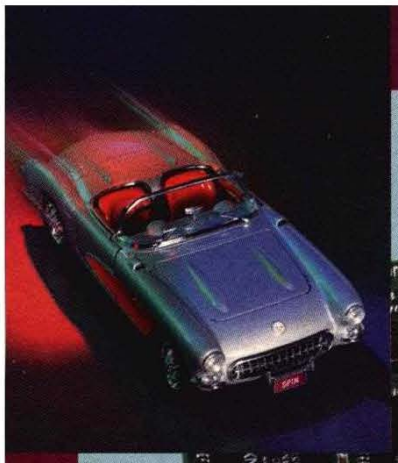
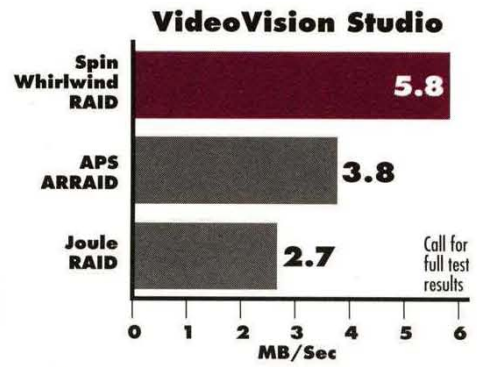


Whirlwinds are the optimum video professional storage solution.



Internal RAID

Our internal kit offers all of the advantages of RAID and can be conveniently mounted in the extra drive bay of your 800, 840AV, PowerMac 8100, or Workgroup Servers 80 and 8150. Dual fans keep the drives and your Mac cool. Internal arrays can be expanded with Whirlwind Fast & Wide drives through the Silicon Express IV external port.

CAPACITY	RAID 0,1	RAID 0,1,4,5
2GB	$2999	$3199
4GB	$3799	$3999

SyQuest Drives

Spin SyQuest™ 3.5" and 5.25" removable drives accommodate your expanding storage needs without slowing you down. The new 200MB and 270MB continue the SyQuest reputation for convenience and reliability at higher speed and capacity. Small, lightweight cartridges are easy to transport and store.

SyQuest 44MB		Cartridge	$43
SyQuest 44/88MB	$299	Cartridge	$48
SyQuest 200MB	$409	Cartridge	$75
SyQuest 105MB	$199	Cartridge	$56
SyQuest 270MB	$429	Cartridge	$65

MacUser RATED 4½ FEBRUARY 1995

4½ mice rating for our SyQuest 200 and 270!

Retrospect backup software included.

DAT Drives

Before disaster strikes, secure your valuable data with a Spin DAT drive. The low cost 3100 stores 2GB while the 3400 packs up to 8GB for remote backups and large audio, video and graphics files. All DAT drives include one tape cartridge and Retrospect™ for easy, complete backups.

Spin 3100 (DDS)	$799
Spin 3200 (DDS-DC)	$899
Spin 3400 (DDS-2)	$999

Whirlwind RAID

Whirlwind RAID is fast enough to handle all types of applications, even high-quality 30 fps video. In benchmark tests, our Fast & Wide arrays approach transfer rates of 9 megabytes per second, and will deliver better than 5.8 MB/sec performance when used with Radius VideoVision Studio™. Package includes ATTO SE IV, Remus software RAID controller, active terminator.

CAPACITY	RAID 0,1	RAID 0,1,4,5
2GB	$2999	$3199
4GB	$3799	$3999
8GB	$5399	$5599

QuickTape

Our new tape drive is the affordable backup storage solution. Easy to use and highly reliable, the Spin QuickTape will secure your valuable data faster than a 2GB DAT drive. Based on the new Tandberg mechanism, the drive can use 1GB QIC-Wide cartridges. Delivered with Cheyenne five-user backup software package and one cartridge.

QuickTape	$499	Cartridge	$19

Optical Drives

Spin's 3.5" Olympus 230MB is the affordable solution to securing your data while the 5.25" Maxoptix 1.3GB optical drives set the standard for speed and capacity. Great for backups, archiving, and as a secondary drive. The T4 comes with one cartridge, and for a limited time, the 230MB includes two free cartridges.

Olympus 230MB	$599	Cartridge	$39
Maxoptix T4 1.3GB	$1999	Cartridge	$85

$379!
Including Cartridge!

Bernoulli Drives

Continuing the Bernoulli tradition of rugged dependability, the Spin 230MB cartridge drive provides unlimited capacity with additional cartridges. Featuring DCR Active Termination and a one year warranty, the 230MB drive is backwards compatible with older cartridges. One cartridge included.

Bernoulli 230MB	$379	Cartridge	$89
		3-Pack	$199

✈ $5.00 OVERNIGHT SHIPPING FOR ANY ORDER UP TO 5 LBS! ✈

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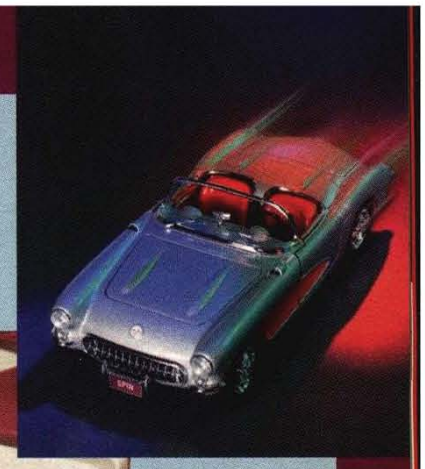

Two Cartridges Included!

Features ARCserve for Macintosh from CHEYENNE

230 Magneto-Optical

Featuring Cheyenne's ARCserve five-user backup software and two cartridges, the 3.5" Spin Olympus 230 Magneto-Optical is the premium solution for securing your data. Backup or archive your valuable Photoshop™, Quark XPress™, Excel™, Word™ and database files for years.

Olympus 230 $599 Cartridge $39

Including the Anubis Formatting utility by CharisMac Engineering, Inc.

Whirlwind

These Fast & Wide drives great for applications that require high speed storage, but not an array. Used with an ATTO Silicon Express IV, a Photoshop™ file rotates 65% faster than with a standard drive. The Whirlwind drives can also be added to our Fast & Wide arrays.

1GB Seagate Barracuda	$999
2GB Seagate Barracuda	$1399
4GB Quantum Atlas	$2199
ATTO SE IV with drive purchase	$895

PowerBook Drives

Spin 2.5" drives are fast, easy to install, and offer the capacity you need when you are on the road.

Quantum 170MB	$229
Quantum 256MB	$249
Quantum 341MB	$349
Quantum 514MB	$449

Quantum 840MB

$269!

Hard Drives

Spin introduces the newest, most affordable mid-capacity solutions for your expanding storage needs. Available for both internal and external use, the Quantum Fireball and Trailblazer use the latest technical advancements to deliver accelerated throughput.

CAPACITY	INTERNAL	TORNADO
Q Trailblazer 420MB	$189	$289
Q Fireball 540MB	$219	$319
Q Trailblazer 840MB	$269	$369
Q Fireball 1.0GB	$379	$479
Spin 3105 1.0GB	$479	$579

High-Capacity, Low-Cost, Limited Time!

CAPACITY	INTERNAL	TORNADO
Seagate Hawk LP 2GB	$849	$949
Quantum Capella 2GB	$849	$949
Quantum Grand Prix 2GB	$899	$999
Quantum Grand Prix 4GB	$1399	$1499
Quantum Atlas 2GB	$999	$1099
Quantum Atlas 4GB	$1499	$1599

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240MB - 1200MB

BRAND/MODEL	CAPACITY	SIZE	ACCESS	RPM	INTERNAL	EXTERNAL
QUANTUM	514MB	2.5"	14MS		$ 425	
FUJITSU M2684S	530MB	3.5"	13MS	5400	$ 209	$ 269
NEC	730MB	3.5"	11MS	4090	$ 239	$ 299
CONNER CFP1080S	1.2GIG	3.5" LP	9MS	5400	$ 455	$ 515
Hitachi DK326c-10	1.0GIG	3.5"	9MS	6300	$ 585	$ 645
FUJITSU M1606S	1.2GIG	3.5" LP	10MS	5400	$ 555	$ 615

1.7GIG - 9GIG

5 YEAR WARRANTY

BRAND/MODEL	CAPACITY	SIZE	ACCESS	RPM	INTERNAL	EXTERNAL
Seagate ST12450W	1.7GIG	3.5"	8MS	7200	$ 1495	$ 1555
Conner CFP2105S	2.1GIG	3.5" LP	9MS	5400	$ 855	$ 915
Conner CFP2107S	2.1GIG	3.5" LP	8MS	7200	$ 955	$ 1015
Quantum XP32150S	2.2GIG	3.5" LP	8.6MS	7200	$ 935	$ 995
Seagate Barracuda 2	2.5GIG	3.5" LP	8MS	7200	$ 1055	$ 1115
Seagate Barracuda 2W	2.5GIG	3.5" LP	8MS	7200	$ 1139	$ 1199
Seagate Barracuda 4	4.1GIG	3.5"	8MS	7200	$ 1499	$ 1559
Seagate Barracuda 4W	4.1GIG	3.5"	8MS	7200	$ 1595	$ 1655
Conner CFP4207S	4.2GIG	3.5"	9MS	7200	$ 1399	$ 1499
Conner CFP4207wide	4.2GIG	3.5"	9MS	7200	$ 1399	$ 1499
Quantum XP34280S	4.3GIG	3.5"	8.6MS	7200	$ 1395	$ 1465
Seagate Elite 9	9.0GIG	5.25"	11MS	5400	$ 2595	$ 2695

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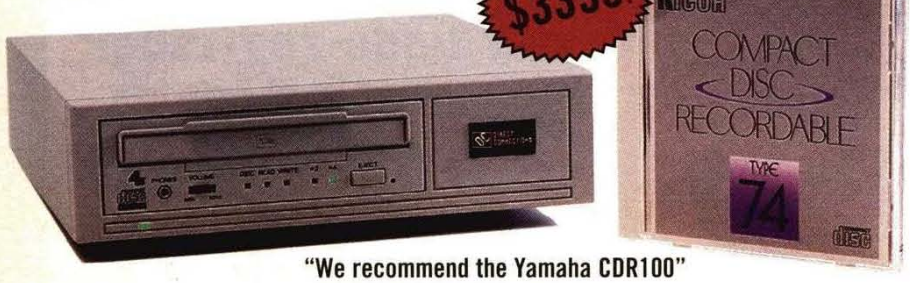

"We recommend the Yamaha CDR100"
- MacWorld Mar. '95

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128MB Optical	$ 25	60M Tape	$ 10
230MB Optical	$ 29	90M Tape	$ 12
1.3GIG Optical	$ 85	112M Tape	$ 15
10 Pack CD's	$ 99	120M Tape	$ 20
88MB Squest	$ 48	200MB Syquest	$ 76
105MB Syquest	$ 54	270MB Syquest	$ 61

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- This Array is the one to beat!! 4.0 GIG Barracuda 2 Wide Raid $ 3599
- 8.0 GIG Fast and Wide Raid $ 4499

Atto Silicon Express IV $799 accelerator card

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Full screen and full motion recording and playback with JPEG hardware compression and decompression. radius

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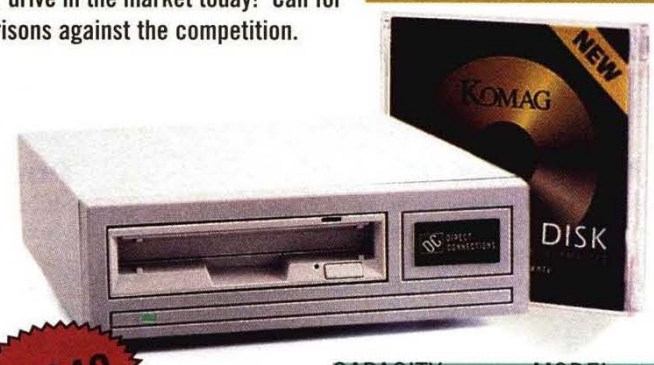
The New Sony 1.3GB half-height has 4MB of Cache and 3600rpm making this the fastest Optical drive in the market today! Call for comparisons against the competition.



$1949.

1 YEAR WARRANTY

ALL OPTICAL DRIVES INCLUDE CARTRIDGE, CABLING, AND SOFTWARE.

CAPACITY	MODEL	EXTERNAL
230MB	Fujitsu	$ 575
1.3GB	NEC	$ 1599
1.3GB	Sony 4MB cache	$ 1949
1.3GB	Ricoh Turbo	$ 2175
Sony's latest technology → 26GB	Sony Jukebox	$ 6395

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CAPACITY	MODEL	MEDIA	INTERNAL	EXTERNAL
1.3-2GIG	DC DAT	4MM	$ 709	$ 769
1.3-4GIG	DC DOUBLE DAT	4MM	$ 839	$ 899
1.3-8GIG	Conner 4326 DDS-2	4MM	$ 1089	$ 1149
4.0GIG	Sony 5200 DDS-2	4MM	$ 939	$ 999
4.0-8GIG	Sony 5000 DDS-2	4MM	$ 939	$ 999
7.0-14GIG	Exabyte 8505XL	8MM	$ 2135	$ 2195
10-20GIG	QUANTUM DLT (DIGITAL LINEAR TAPE) INCREDIBLE 2.5MB/SEC TRANSFER RATE	1/2	$ 3575	$ 3675
-140GIG	Exabyte-10h Library	8MM		$ 4999

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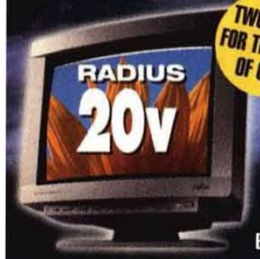

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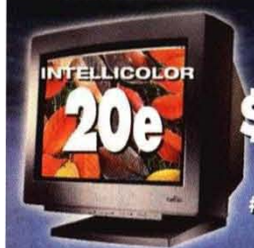

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Radius 21 inch Grayscale Display	$799
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Radius IntelliColor Display 20e $1699*
Limited Quantities!
- Top rated 20" Trinitron, Best Money Can Buy
- MacUser, MacWorld, and MacWeek Editor's Choice
- 1600x1200 to 640x400 • Microprocessor Controls

*With qualifying videocard, accelerator, or computer purchase

SEVENTEEN INCH DISPLAYS

SuperMac/E-Machines T16IIMR $699*
Limited Quantities!
- High Grade Studio Trinitron Series
- .25mm multi-resolution • Editors Choice
- Microprocessor Controls • 1024x768 to 640x480

SuperMatch 17T	$799*
Radius PrecisionColor Display 17	$CALL

*With qualifying videocard, accelerator, or computer purchase

PIVOT DISPLAYS

Radius Color Pivot LE	$399
Precision Color Pivot	$599
Grayscale Pivot	$399
Radius Full Page Display	$299

Radius PhotoBooster $199*
Retail $999
- Features twin AT&T 3210 66MHz DSPs • Accelerates Photoshop Filters • Up to 10x faster than a Quadra 950
- MacUser Editor's Choice

PhotoShop Deluxe Edition $299

Thunder DSP Daughterboard $299

PhotoEngine $CALL

Radius PowerView $199
Allows most PowerBooks and the Classic II to support displays and projectors.

SuperMac SuperView $299
Similar to Radius PowerView but also supports TV!

CRA Systems, Inc. full one year warranty. All quantities limited and sold on a first come first serve basis.

radius™

SUPERMAC™

MACINTOSH QUADRA BLOW OUT!

Macintosh Quadra 605/LC 475 4/0 $599*
- Lowest price ever! • NEW with 1 year warranty!
- 50/25 MHz 68LC040 processing power • PowerMac upgradeable
- Built-in video supports up to 21" color monitors
- 4MB RAM with Burst-Mode access (expandable to 36MB)
- Supports stereo sound • MultiMedia ready—Just plug in CD-ROM

*CPU Only

"Never before has Apple offered so much performance for so little money" — MacWorld

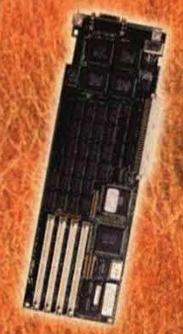
24 BIT VIDEO
MILLIONS OF COLORS!
Buy 256 colors for $199 and get 16 million free!

Finally a 24 bit video solution for the price of 8 bit. Upgrade to the industry standard with photorealistic color in applications such as Adobe Photoshop, Illustrator, PageMaker, and others. Even games, CDs, and most business applications such as Microsoft Word and Excel currently support millions of colors (24 bit). All cards available in limited quantities only. First come first serve.

21" RESOLUTIONS

24 BIT

Radius PrecisionColor 24X	$599
Radius PrecisionColor Pro 24X	$699
All Thunder IV's	$CALL
All Thunder II's	$CALL
SuperMac Ultura LX with DSP acceleration	$1299
RasterOps Horizon 24	$1499
RasterOps 24XLTV	$1499
RasterOps PaintBoard Pro	$899
RasterOps PaintBoard Turbo XL	$699
RasterOps Prism GT	$CALL



8 BIT

Radius PrecisionColor 8XJ	$399
SuperMac DoubleColor LX	$399
SuperMac Spectrum 8/24 PDQ	$399

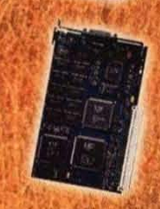
20/19" RESOLUTIONS

24 BIT

SuperMac Spectrum 24 Series V	$599
Radius PrecisionColor 24XK	$499
Radius PrecisionColor Pro 24XK	$599
SuperMac Futura MX	$499
RasterOps PaintBoard Lightning	$499
RasterOps Prism 24	$CALL

8 BIT

SuperMac Spectrum 8 Series III	$199



17/16" RESOLUTIONS 24 BIT

Radius PrecisionColor 24XP	$199
Radius PrecisionColor Pro 24XP	$CALL
SuperMac Futura SX	$299

APPLE VIDEO CARDS

Apple 8•24	$399
Apple 8 Bit	$99

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68040 Accelerator BLOW OUT!

from **$299****

Radius Rocket 33MHz w/FPU	$399**
Radius Rocket 40MHz w/FPU	$499**
Stage Two Rocket 40MHz w/FPU -includes SCSI II Booster and RocketShare	$899
SCSI II Booster (up to 4x faster)	$249
PhotoBooster for Rocket	$299
RocketShare	$299

**With purchase of any Rocket peripheral

MULTI MEDIA

Spigot II Tape $499
Full Motion Video – Lowest Price Ever!

VideoSpigot Card from $99*
retail price $599

VideoVision Studio Upgrade	$CALL
VideoVision Studio	$CALL
VideoVision Studio Array	$CALL
VideoSpigot Nubus/LC/IIsi	$99*
Spigot and Sound/VideoSpigot Pro	$299/399
MacRecorder	$149
Adobe Premiere	$99**

**With computer or video purchase *With purchase of Premiere*

PRINTERS

COLOR PRINTER ONLY $299

Star SJ-144MC 360 dpi *with 5 free cartridges!*
"A breakthrough product because of its technology as well as its price!" — MacWeek
retail price $599 ...only $249 with computer purchase
Compare with $499 Apple Color StyleWriter 2400 —

•Advanced Heat Fusion printing-no ink smears	— only Star
•Blazing 382 cps in Laser Quality mode!	— only Star
•Large 102KB print buffer	— only Star

• BYTE's Best of Comdex- Byte Magazine •'Best Buy'- Printers Buyers Guide and Handbooks • Compute's Spring Comdex Top Ten Award

TABLOID LASER PRINTER from $1999

QMS 860 Hammerhead 600-1200 dpi
- Full-Bleed 11"x17" output • PostScript Level 2
- 8ppm heavy-duty Canon engine

GCC WriteMove II *portable printer only* $199*
MacUser ★★★½ • *MacUser— 4 1/2 mice* • *MacWeek — ★★★★* *with CPU purchase

GCC SelectPress 1200 $4999
- 1 year factory warranty • true 1200x1200 dpi resolution for camera ready output • 12"x19" tabloid printing • 270MB internal hard disk
- MacUser ★★★★½ • 285 PostScript fonts • *"Best Output" – MacUser* *"Produces consistently good output" –Seybold Reports*

Apple LaserWriter Select 360 $1149*
• includes Toner • *"a terrific bargain" – MacUser* • *After rebate

OEM Apple LaserWriter $499

CPUs

Apple WGS 95 32/2gb, DAT, A/share Pro — Grab this one! *Dealer Cost $9290*	$5999
Mac Plus 1/0	$149
Mac SE 1/20	$299
Mac Classic 2/40	$499
Mac II 0/0	$299
Mac IIcx 0/0	$499
Mac IIci 0/0	$699
Mac IIsi 5/80	$699
Quadra 700, 900, 950	$CALL
Quadra 800, 840AV	$CALL
PowerMacs	$CALL
All other CPU's	$CALL

Cards-Network

Apple Token Talk 1/4-4/16	$299/$499
DCA Mac Irma 3270	$499
DCA Mac Irma 3270 for SE	$499
EtherNet boards for SE/SE30	$99
EtherNet LC thin coax	$99
Shiva FastPath 4 Gateway	$999

Cards-Misc.

Apple IIe emulation for LC	$149
Apple IIci cache card	$99
Apple serial Nubus card	$199
IIsi Nubus or PDS adapter card	$99
PLI Quick SCSI Nubus card	$299
Orange Micro 286 board	$199

Cards-Video

Apple 8•24 GC	$449
Apple 8•24	$399
Apple 8 bit for 13"-14"	$199
Apple Portrait/Two Page	$149/$249
RasterOps 104 24bit TPD	$299
RasterOps 24XLi	$799
RasterOps 24L with 801	$699
RasterOps 708+ 8bit for 20"	$299
RasterOps 24XLTV	$2399
SuperMac Spectrum 24bit for 20"	$599
E-Machines Colorlink EX/T	$299
E-Machines Colorlink SX/T	$499
E-Machines T19 Card for SE/30 / IIsi	$299

Drives

Apple 5.25 Ext. PC drive w/SE or Nubus	$99
PowerBook 20mb/40mb/80mb	$89/$129/$199
Dayna 360k/1.2mb-740K/1.44mb	$499
Exabyte 8mm 5gb tape backup	$1299
Maxtor 800mb WORM drive	$499
NEC CDR 72/73/74 CD drive	$199/$299/$399
Ricoh HyperSpace 600mb Read/Optical	$1799

Input/Output

Apple Scanner	$499
HP Scanjet	$399
Howtek ScanMaster III+	$2999
Mirrus Film Recorder	$2999
Voice Navigator II	$499

Monitors

Apple 12" Mono/Grayscale	$199
Apple 15" FPD Mono/Grayscale	$449
Apple 21" TPD Mono/Grayscale	$999
E-Machine ColorPage 15 with Card	$499

Upgrades

All Logic Board Upgrades	$Call
Mac SE FDHD Upgrade	$349
Mac II FDHD Upgrade	$399
QMS 4mb upgrade, Model 100 legal pack	$499

Miscellaneous

110-1500 Watt battery backups	$99-$799
Apple IWII/LQ cut sheet feeder	$99/$149
Apple LQ bin expansion	$79
Apple universal monitor stand	$49

Printers

Apple ImageWriter I/II	$149/$289
Apple ImageWriter LQ	$449
Apple ImageWriter I wide carriage	$269
Apple LaserWriter 8ppm Postcript	$499
Apple LaserWriter IInt/ntx	$799/$999
LaserMax 800, 135 fonts	$2499
Mitsubishi G370-10u 300dpi Color	$1999
Newgen Turbo PS400	$1099
QMS ColorScript 100 Model 10	$1999
QMS ColorScript 100 Model 30 11x17	$2999
Qume Script Ten (white write)	$1399
Rich Laser 6000/ps	$899
Texas Instruments 2108	$999

Parts

Mac Plus logic, no ROMs	$99
All logic boards	$CALL
All power supplies	$CALL
Mac Plus power supply	$129
SE analog board	$129
SE Power Supply	$129
1.44 FDHD floppy (new)	$199
400K/800K floppy drive	$49/$99
Apple ADB mouse (new)	$59
Mac IIcx case and power supply	$199
Mac II/IIx/IIfx case and power supply	$199
CRT & yoke for Plus, SE	$49

Over 20,000 items in stock, if you don't see it- Call us!

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Quantum

Incredibly Low Price **$1149**
GRAND PRIX 4.3GB INTERNAL

NOW SHIPPING WITH ACTIVE TERMINATION

$499
FIREBALL 1GB INTERNAL

ClubMac NEW PRODUCT

GRAND PRIX 3.5" HIGH CAPACITY DRIVES

Capacity	Part No.	Internal	Part No.	External
4300MB	C109 1159	$1149	C109 1108	$1209

3.5" LOW PROFILE DRIVES

Capacity	Part No.	Internal	Part No.	External
EMPIRE SERIES 9.5ms access time				
2100MB	C109 1158	$919	C109 1107	$979
MAVERICK SERIES 14ms access time				
540MB	C109 1151	$209	C109 1101	$269
LIGHTNING SERIES 11ms access time				
365MB	C109 1155	$189	C109 1104	$249
540MB	C109 1150	$219	C109 1100	$279
730MB	C109 1154	$259	C109 1102	$319
FIREBALL SERIES 9.5ms access time				
1080MB	C109 1202	$499	C109 1105	$559

$399
DAYTONA 514 INTERNAL

2.5" POWERBOOK DRIVES

Capacity	Part No.	Internal	Part No.	External
DAYTONA SERIES 17ms access time				
341MB	Q030 1041	$299	C109 1119	$419
514MB	Q030 1002	$399	C109 1109	$519

LIMITED TIME OFFER
$59.95* C089 1009 300D
* Get ClarisWorks 3.0 with any external drive for an additional $59.95

All Quantum Drives carry a 30-Day Money Back Guarantee. Quantum Maverick, Lightning, Empire, and Atlas series include a TWO Year Warranty. Quantum Daytona series include a ONE Year Warranty.

ClubMac 5.25" 200MB Removable

NEW! Read, Write and FORMAT
Compatible with 200MB, 88MB, and 44MB Cartridges.

FEATURING SyQuest® REMOVABLE TECHNOLOGY

$478
C109 1003

INCLUDES FREE CARTRIDGE

NOW SHIPPING WITH ACTIVE TERMINATION

MacUser ★★★★ February 1995

		External
C109 1003	**5.25" ClubMac 200MB** *includes FREE Formatted 200MB Cartridge*	$478
C109 1002	**5.25" ClubMac 88MB** *includes FREE Formatted 88MB Cartridge*	$349

All SyQuest drives include SCSI Director formatting software, ONE FREE Formatted Cartridge, necessary cables for "plug-and-play" and documentation. All SyQuest drives include a 30-Day Money Back Guarantee and TWO Year Warranty. All SyQuest cartridges include a FIVE Year Warranty (warranty after the first year is handled by SyQuest).

ClubMac 3.5" 270MB Removable

- Fast 13.5ms average seek time
- 3,600 RPM rotational speed
- Data transfer rate up to 4MB/sec (sync)
- SCSI-2 interface
- Backward compatible with 105MB cartridges
- 100,000 hours MTBF

NOW SHIPPING WITH ACTIVE TERMINATION

$479
C109 1004

FREE CARTRIDGE

		External
C109 1004	**3.5" ClubMac 270MB** *includes FREE Formatted 270MB Cartridge*	$479

ClubMac 3.5" 105MB Removable

- Fast 14.5ms average seek time
- 3,600 RPM rotational speed
- SCSI-2 interface
- Data transfer rate up to 4MB/sec (sync)
- 100,000 hours MTBF

NOW SHIPPING WITH ACTIVE TERMINATION

$259
C109 1005

FREE CARTRIDGE

		External
C109 1005	**3.5" ClubMac 105MB** *includes FREE Formatted 105MB Cartridge*	$259

SyQuest 5 YEAR Warranty* ON CARTRIDGES

GENUINE SYQUEST CARTRIDGES

Part Number	Media	Qty 1	Qty 10	Qty 20
S198 1010	44MB	$43ea	$42ea	$41ea
S198 1011	88MB	$48ea	$47ea	$46ea
S198 1012	200MB	$76ea	$74ea	$72ea
S198 1013	105MB	$55ea	$53ea	$51ea
S198 1014	270MB	$62ea	$61ea	$60ea

* Warranty after first year, handled by SyQuest.

NEC

NEC MultiSpin 2V

$199
N024 1008

2X Speed

- Power Tray
- 320ms access time
- 300KB/sec transfer rate
- Two Year Limited Warranty

NEC MultiSpin 6Xe **$559**

NEW PRODUCT

N024 1062

6X Speed

- Blazing 900 KB/sec
- 150ms access time
- Removable disc cartridge included
- Two Year Limited Warranty

N024 1062	**NEC MultiSpin 6Xe**	$559
N024 1011	**NEC MultiSpin 3Xp**	$379
N024 1008	**NEC MultiSpin 2V Mac**	$199

Seagate

4.3GB BARRACUDA 4 **$1619** EXTERNAL
8.5ms average seek time
7,200 RPM rotational speed

NOW SHIPPING WITH ACTIVE TERMINATION

Unformatted Capacity	Model	Description	Part No.	Internal	Part No.	External
3.5" Half Height & Low Profile (LP)						
2.4GB	32430N	Hawk 2 LP	C109 2211	$959	C109 2112	$1019
4.3GB	15230N	Hawk 4	C109 2212	$1339	C109 2113	$1399
2.5GB	32550N	Barracuda 2 LP	C109 2203	$1089	C109 2109	$1149
4.3GB	15150N	Barracuda 4	C109 2207	$1559	C109 2106	$1619
5.25" Full Height						
9.1GB	410800N	Elite-9			C109 2110	$2799

ClubMac 4X CD-ROM

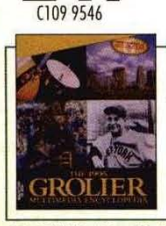
- 600KB/sec data transfer rate
- 190ms average access time
- Caddy-less design
- LED light, headphone jack and RCA jacks
- CharisMac's CD AutoCache driver software
- ONE Year Warranty

$249
C109 9546

ClubMac 2X CD-ROM

- 300KB/sec data transfer rate
- 320ms average access time
- Caddy-less design
- LED light, headphone jack and RCA jacks
- CharisMac's CD AutoCache driver software
- ONE Year Warranty

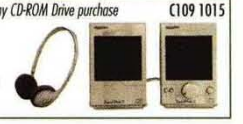
$159
C109 9543



NEW PRODUCT

CLUBMAC CD-ROM BUNDLE $100*
* with any CD-ROM Drive purchase C109 1015

- Grolier1995 Multimedia Encyclopedia
- U.S. Atlas & World Atlas
- San Diego Zoo Animals
- Wyatt Earp
- QuickShot speakers & Koss Headphones (5 Titles/4 CDs)



ClubMac Tape Backup Drives

The ClubMac 2.0GB DAT drive features 20sec average data access time, up to 266KB/sec data transfer rate, SCSI-1/SCSI-2 interface and 60,000 hrs MTBF.

NOW SHIPPING WITH ACTIVE TERMINATION

BUNDLED WITH Retrospect v2.1 Backup Software

$729

C109 5011	**ClubMac 2.0GB DAT**	$729
C109 5010	**ClubMac 4-8GB DAT/DDS-2**	$949

ClubMac DAT drives includes a 30-Day Money Back Guarantee, TWO Year Warranty, RetroSpect v2.1 Backup Software, ONE 90m DAT tape (ClubMac 4-8GB DAT drive includes ONE 120m DAT tape), 25/50 pin SCSI cable and power cord for external drives, user's guide, and Switchable Active Termination.

ClubMac Optical Drives

ClubMac 5.25" OLYMPUS 1.3GB

- 29ms ave. seek time
- 3,500 RPM rotational speed

$1499
C109 5022

NOW SHIPPING WITH ACTIVE TERMINATION

CLUBMAC 3.5" OLYMPUS 230MB

- 28ms ave. seek time
- 4,200 RPM rotational speed

MacUser ★★★★ February 1995 **$579** C109 9352

ClubMac drives are preformatted and thoroughly tested. ClubMac Optical drives include a 30 Day Money Back Guarantee, ONE Year Warranty, a FREE formatted optical disk, SCSI Director Formatting Software, pre-loaded Apple system software, 25/50 pin SCSI cable and power cord for external drives, user's guide, and Switchable Active Termination.

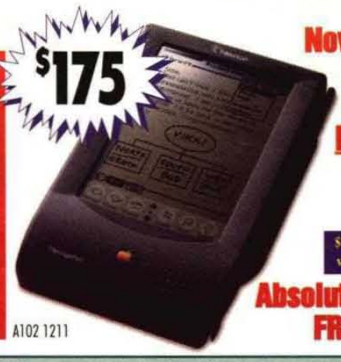
New ClubMac Catalog is now Available! Call 1-800-258-2622 and ask your salesperson for your FREE ClubMac Catalog subscription.

Authorized Catalog Reseller

Apple Newton MessagePad 100

Newton MessagePad 100

- Manage information, stay in touch with people, and exchange data with your computer
- Send or receive electronic mail, send a fax or "beam" to another Newton MessagePad
- Newton® Recognition Architecture recognizes both printed and cursive handwriting
- Built-in applications that include a notepad, to-do list, datebook, and name file
- Features a fast 20 MHz Processor, improved 4mb ROM and 640K RAM.



Now Bundled with Money Magazine Business Forms

$27.95 value!

Absolutely FREE!

Monitors, Graphic Cards, Multimedia

NEC

15" MultiSync XV15

- Perfect entry level business, small office/home office, home education/entertainment
- 15" diagonal flat square technology
- FullScan capability for edge-to-edge images
- Mac and PC compatible
- Fine 0.28mm dot pitch
- 640 x 480 up to 1024 x 768 resolution

GREAT DEAL

$435

FREE
NEC AudioTower Speakers
With the purchase of a NEC MultiSync XV15 of XV17 Monitor

THREE YEAR WARRANTY

	14" MultiSync 2V (N026 1016)	$335
	15" MultiSync XV15 (N026 1015)	$435
	15" MultiSync XE15 (N026 1006) / XP15 (N026 1005)	$549 / 599
	17" MultiSync XV17 (N026 1022) / XP17 (N026 1009)	$759 / 1229
	21" MultiSync XE21 (N026 1010) / XP21 (N026 1011)	$1989 / 2439

IntelliColor Display/20e

The Radius IntelliColor Display/20e is part of the next generation in professional two-page color displays. It delivers unrivaled command of your desktop, from on-the-fly resolution switching to state-of-the-art color temperature control. Combined with Radius' IntelliColor software, it allows you to emulate 3 lighting conditions and user-adjustable color temperature, so you get more accurate color representation.

$1979

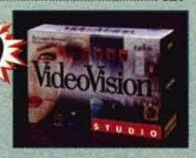
MONITORS

R016 1013	PressView 21T Display System (PV2102) 21" Trinitron, 640 x 480 to 1600 x 1200	$3129
R016 1016	SuperMatch 21•T XL Trinitron (STD2102) 21" Trinitron, 1600 x 1200	$2139
R016 1009	IntelliColor Display/20e (0461) 20" Trinitron, 640 x 480 to 1600 x 1200	$1979
R016 1007	PrecisionColor Display/17 (0460) 17" Trinitron, 640 x 480 to 1600 x 1200	$989
R016 1015	SuperMatch 17•T PRO (STD1702) 17" Trinitron, 1360 x 1024	$829

VideoVision Studio 2.0

With JPEG hardware compression and decompression for full-screen, full-motion recording and playback from a hard disk, VideoVision Studio combines the power and flexibility of the Macintosh with the ease and transportability of video tape.

$3699



PowerMac 8100 Compatible !!

MULTIMEDIA SOLUTIONS

R013 1018	VideoVision Studio 2.0 (0500) NEW and IMPROVED, now compatible with the PowerMac 8100	$3699
R013 1020	VideoVision Studio 2.0 Upgrade (0505) JPEG daughtercard	$1759
R013 1026	Spigot Power AV (DV1630) captures full-screen 24-bit color video up to 30 frames/60 fields per sec	$759

radius

Thunder Series GRAPHIC ACCELERATORS

Super Resolution at Earth-Shaking Speed.

as low as $1899

Thunder Series Cards
Blow the doors off Power Mac

Three Thunder IV GX cards extend the 24-bit resolution of the PowerMac's built-in-video. Accelerated 24-bit color, built-in Photoshop acceleration, CMYK acceleration, hot-key resolution switching, pan and zoom, color composer and 10-bit DAC add up to make these cards the number one choice for image processing, compositing and illustration.

FREE* ColorComposer software

Adobe charged

GRAPHIC CARDS

R013 1059	Thunder IV GX•1600 (0513) 24-bit support to 1600 x 1200	$2799
R013 1060	Thunder IV GX•1360 (0446) 24-bit support to 1360 x 1024	$2289
R013 1061	Thunder IV GX•1152 (0485) 24-bit support 1152 x 870	$1899
R013 1062	Thunder/24 GT (0491) 24-bit support to 1152 x 870, PhotoEngine optional	$1329
R013 1010	PrecisionColor Pro 24XK (0430) 24-bit color, 1024 x 768, 16" and larger displays	$749
R013 1012	PrecisionColor Pro 24XP (0431) 24-bit color, 832 x 624, 17" and smaller displays	$279

*Modify your image display without affecting the image file. For a limited time, FREE ColorComposer software is included with each Thunder Series card. Adjust what you see on your monitor to more closely match the output of your printer.

Printers

NEC

BEST BUY

NEC Silentwriter Model 640

- 6ppm Print Speed
- 300 dpi print resolution
- 35 True Type fonts
- 3MB RAM standard
- AppleTalk Interface
- Adobe PostScript Level 2 interpreter
- Limited TWO-Year Overnight Replacement Warranty (N027 1001)

$699

EPSON

Stylus COLOR Inkjet Printer E047 1012

Now you can print in vivid color with clarity never before possible in a personal color printer. At 360 dpi resolution blacks are blacker and at 720/360 dpi the color output is the sharpest available.

- Incredible 720 dpi color printing, optimized with special coated paper
- 360 dpi black print resolution
- Prints up to 16 million colors
- Serial interface
- Includes Mac driver software and a TWO Year Warranty

$529

Graphic Cards — The Inexpensive Alternative for High-End Color Displays

EA REASEARCH

EAsycolor 24

The EAsycolor 24 graphics accelerator offers an unsurpassed combination of performance and price to creative professionals. In addition to 24-bit resolution up to 1600 x 1200, the EAsycolor 24 also offers Adobe Photoshop, CMYK-RGB, and QuickDraw Acceleration. Ideal for PowerMac owners, the EAsycolor 24 features state of the art RISC technology, up to 8MB VRAM, a 30 day money-back guarantee and a lifetime warranty at a very competitive price.

$1299

E103 1001	EAsycolor 24 1152 Graphics Card (EC1152)	$1299
E103 1002	EAsycolor 24 1360 Graphics Card (EC1360)	$1699
E103 1003	EAsycolor 24 1600 Graphics Card (EC1600)	$2299

RASTEROPS® CORPORATION

PaintBoard Prism GT bundled with Painter 3.0

Prism delivers top performance – real-world performance – for the way that people really work. Prism provides a balance of price, performance and functionality that are unmatched

- Accelerated 24-bit color at resolutions up to 1152 x 870
- Seven-inch size compatibility with compact and full-size NuBus Macintosh and Power Macintosh computers
- Support for displays up to 21 inches
- High refresh rates for flicker-free images
- Hardware-based 2X, 4X and 8X zoom and pan

NEW PRODUCT

R053 1029	PaintBoard Prism GT bundled with Painter 3.0	$959
R053 1028	PaintBoard Prism	$659

Scanners

HP ScanJet 3c

The HP ScanJet 3c Color/Grayscale flatbed scanner for just $959. It offers 600 dpi, 30-bit color internal, and 10 bit grayscale internal capabilities for superior image quality. And it provides an easy way to add text and color images to documents.

$959

HEWLETT PACKARD Authorized Reseller

H045 1006	HP ScanJet 3c Color/Grayscale Scanner	$959
H045 1004	HP ScanJet 3p Grayscale Scanner	$479
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100MHz

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(A120 1026)

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28.8 MC v.34

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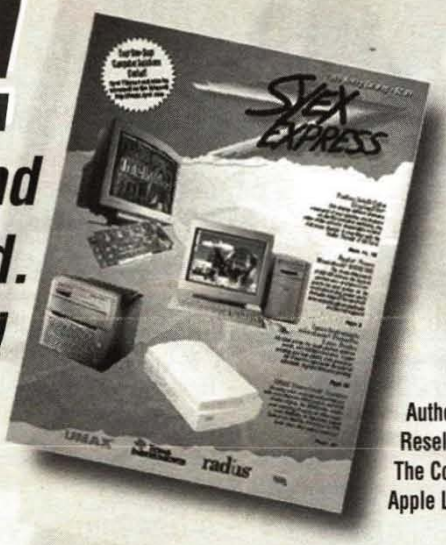

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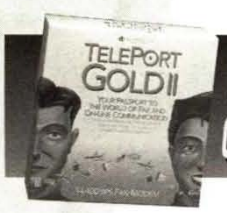

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Hewlett-Packard DeskJet 1200C/PS ***$1625***
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NEC 3Xp — $398
240ms access time, 500Kb/sec transfer rate, 1 Year Warranty

Toshiba QuadSpeed — $380
120ms access time, 600Kb/sec transfer rate, 256K,1 Year Warranty

NEC 4Xe — $485
220ms access time, 600Kb/sec transfer rate,256K,1 Year Warranty

Plextor 4Plex — $425
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Digital Linear Tape Drives

Quantum DLT

Model	Capacity	Trans.Rate	Media	Ext.
DLT2000	20 GB	2.5MB/sec.	DLT20	$2995
DLT4000	40 GB	3.0MB/sec.	DLT40	$Call!

1 free cartridge with each DLT purchase

These drives are ideal for AV and network backup due to their advanced linear recording technology and a highly accurate tape guide system . DLT allows you to backup 150 to 180 MB per minute. DLT is your high capacity high performance backup solution.

Optical Drives

	Capacity		Access	Warranty	Ext.
Hewlett Packard	1.3 GB	1716T	23.5ms	1 Year	2295
MaxOptics	1.3 GB	Tahitti III	18ms	1Year	2395
Fujitsu	230 MB	M2512	30ms	1Year	575

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Zero Footprint 10.75" x 9.75" x 2" $75
MicroCab 8.5" x 6.75" x 2" $85
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Nikon	Scantouch	$1299
	Transparency Adapter	$599
	Coolscan	$1499
UMAX	UC630/1260	$675/1240
	Vista S6	$760
	Powerlook	$3250

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NEW Quantum Quantum Quantum

	Capacity	Seek	RPM	Cache	Warranty	Int.	Ext.
LPS Series	170 MB	14 ms	3600	128K	2 Year	$135	$195
Maverick	540 MB	14 ms	3600	128K	2 Year	225	285
LPS Series	340 MB	11 ms	4500	128K	2 Year	185	245
DSP3053	535 MB	9 ms	5400	512K	2 Year	225	285
Fireball NEW	540 MB	11 ms	4500	128K	2 Year	245	305
Fireball NEW	1080 MB	11 ms	4500	128K	2 Year	495	555
Empire	2100 MB	9.5 ms	5400	512K	5 Year	945	1005
Grand Prix	4200 MB	8.6 ms	7200	512K	5 Year	1155	1215
Atlas Series	1.0 GB	9ms	7200	1024K	5 Year	Call	Call
Atlas Series	2.0 GB	9ms	7200	1024K	5 Year	925	985
Atlas Series	4.0 GB	9ms	7200	2048K	5 Year	1585	1675

	Capacity	Size	Seek	Cache	Warranty	Int.	Ext.
Daytona	256 MB	Powerbook 2..5"	17 ms	128K	1 Year	225	295
Daytona	341 MB	Powerbook 2..5"	17 ms	128K	1 Year	315	395
Daytona	514 MB	Powerbook 2..5"	17 ms	128K	1 Year	385	465

New Products — MICROPOLIS MICROPOLIS — New Pricing!!

	Capacity	Access	RPM	Cache	Warranty	Int.	Ext.
M4221	2.1 GB	8.5 ms	7200	512K	5 Year	980	1040
M4221Wide	2.1 GB	8.5 ms	7200	512K	5 Year	1080	1140
M1936	3.6 GB	11 ms	5400	512K	5 Year	1195	1295
M3243	4.3 GB	8.5 ms	7200	512K	5 Year	1395	1455
M3243Wide	4.3 GB	8.5 ms	7200	512K	5 Year	1475	1535
M1991	9.0 GB	12 ms	5400	512K	5 Year	2195	2295
M1991Wide	9.0 GB	12 ms	5400	512K	5 Year	2295	2395
Direct to Disk Recording AV Drives- BEST for Music and Video Storage							
M4221AV	2.1 GB	8.5 ms	7200	512K	5 Year	1035	1095
M1936AV	3.6 GB	11 ms	5400	512K	5 Year	1245	1345
M3243AV	4.3 GB	8.5 ms	7200	512K	5 Year	1495	1455
M1991AV	9.0 GB	12 ms	5400	512K	5 Year	2325	2425
M4221WideAV	2.1 GB	8.5 ms	7200	512K	5 Year	1135	1195
M3243WideAV	4.3 GB	8.5 ms	7200	512K	5 Year	1595	1655
M1991WideAV	9.0 GB	12 ms	5400	512K	5 Year	2495	2595

NEW MICRODISK LT *3.5" Stackable Disk Subsystems, Super Capacity External Storage*

M2100	2.1 GB	8.9 ms	7200	512K	5 Year	Call for the most
M4200	4.2 GB	8.9 ms	7200	512K	5 Year	competitive pricing

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Quantum 170MB ..... Int. $135 Ext. $195
3600RPM, 14ms seek, 128K cache, 2 year warranty

Quantum 340MB ..... Int. $155 Ext. $215
4500RPM, 12ms seek, 128K cache, 2 year warranty

Quantum535MB ..... Int. $225 Ext. $285
DSP3053, 5400RPM, 9ms seek, 512K cache, 2 year warranty

IBM 728MB ..... Int. $260 Ext. $320
OBI728, 4500RPM, 11ms seek, 128K cache, 2 year warranty

Quantum Fireball 1.0GB ..... Int. $495 Ext. $555
QFB1080, 4500RPM, 11ms seek, 2 year warranty

Quantum Grand Prix 2.0GB ..... Int. $890 Ext. $950
Q2100, 5400RPM, 9ms seek, 5 year warranty

Seagate Barracuda 4.0GB ..... Int. $1495 Ext. $1555
ST15150N, 7200RPM, 8ms seek, 5 year warranty

Seagate Seagate Seagate Seagate

	Capacity	Seek	RPM	Cache	Warranty	Int.	Ext.
Hawk 2LP	1.2 GB ST31230N	9ms	5400	512K	5 Year	535	595
Hawk 4	4.2 GB ST15230N	9ms	5400	512K	5 Year	1335	1495
Barracuda 2LP	2.5 GB ST32550N	8ms	7200	1024K	5 Year	1050	1110
Barracuda 4	4.2 GB ST15150N	8ms	7200	1024K	5 Year	1495	1555
Barracuda 2Wide	2.5 GB ST32550Wide	8ms	7200	1024K	5 Year	1125	1195
Barracuda 4Wide	4.2 GB ST15150Wide	8ms	7200	1024K	5 Year	1590	1650
Elite 9	9.0 GB ST410800N	11ms	5400	512K	5 Year	2795	2895

FUJITSU FUJITSU FUJITSU FUJITSU FUJITSU FUJITSU

	Capacity	Seek	RPM	Cache	Warranty	Int.	Ext.
M2684	530 MB	9ms	4500	256K	5 Year	220	280
M1606SA	1.2 GB	9ms	4500	512K	5 Year	525	585

HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD

	Capacity	Access	RPM	Cache	Warranty	Int.	Ext.
C3724SE	1.2 GB	9.5 ms	5400	512K	5 Year	$585	$645
C2490SE	2.4 GB	8.5 ms	6300	512K	5 Year	1125	1185

All in Stock! SyQuest TECHNOLOGY

Capacity		Seek	RPM	Int.	Ext.
88 MB	SQ5110C	20 ms	3200	$305	$365
200 MB	SQ5200	18 ms	3200	420	480
270 MB	SQ3270	13.5 ms	3200	420	480

2 Year Warranty on all SyQuest Drives. SyQuest drives come complete with 1 cartridge(Formatted or Unformatted) and the latest SCSI 4.3 compatible software

SyQuest TECHNOLOGY Media

Capacity	Model	Warranty	Price
44 MB	SQ400	5 year	$41
88 MB	SQ800	5 year	46
105 MB	SQ310	5 year	50
200 MB	SQ2000	5 year	74
270 MB	SQ327	5 year	63

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Remus RAID Software — Call

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HEWLETT PACKARD

Capacity	Model	Media	Int.	Ext.
2.0 GB	35470	4mm	$935	$985
3-5 GB	35480	4mm	1105	1150
4-10 GB	1533A	4mm	1235	1295
20-50 GB	1553A Auto Tape Loader		3495	3595

Exabyte

Capacity	Model	Media	Int.	Ext.
2-5 GB	8205	8mm	$1395	$1485
7-14 GB	8505XL	8mm	2175	2240

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4x8x80 60/70ns	8MB 60/70ns
4x8x80 FX	16MB 70ns
16x8x80 Low Profile	32MB 60ns
16x8x80 FX	VRAM 256K/512K

Powerbook Memory
520,520C,540,540C
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Internal configuration

7200 RPM!

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Internal configuration

7200 RPM!

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349-2050MB

Model	Capacity	Internal	SR2000
APS Q 365[2] Quantum 365 Lightning mechanism	349MB	$159.95	$259.95
APS Q 540[2] Quantum 540 Fireball mechanism	516MB	199.95	299.95
New Lower Pricing! APS Q 730[2] Quantum 730 Lightning mechanism	699MB	249.95	349.95
APS Q 840[2] Quantum 840 Trailblazer mechanism	811MB	299.95	399.95
APS Q 1080[2] Quantum 1080 Fireball mechanism	1042MB	349.95	449.95
MacUser/ZD LABS 4½ APS ST 1.0[5] Seagate ST 31230N Hawk mechanism	1010MB	549.95	649.95
APS Q 1.0[5] Quantum Atlas XP31070 mechanism	1025MB	699.95	799.95
APS Q 2.0[5] Quantum Atlas XP32150 mechanism	2050MB	999.95	1099.95
MacUser/ZD LABS 4½ APS MS 2.0[5] Micropolis 4221 mechanism	1955MB	999.95	1099.95
APS ST 2.0[5] Seagate ST 32550N Barracuda	2047MB	999.95	1099.95
APS MS 2.0Av[5] Micropolis 4221AV mechanism	1955MB	1099.95	1199.95

4064-8669MB

Model	Capacity	Internal	SR2000
APS MS 4.0[5] Micropolis 3243 mechanism	4064MB	$1399.95	$1499.95
APS MS 4.0Av[5] Micropolis 3243AV mechanism	4064MB	1499.95	1599.95
MacUser/ZD LABS 4½ APS ST 4.0[5] Seagate ST 15150N mechanism	4094MB	1499.95	1599.95
APS Q 4.0[5] Quantum Atlas XP34300 mechanism	4101MB	1499.95	1599.95
APS MS 9.0[5] Micropolis 1991 mechanism	8669MB	2299.95	*2499.95
APS MS 9.0Av[5] Micropolis 1991AV mechanism	8669MB	2399.95	*2599.95
MacUser/ZD LABS 4½ APS ST 9.0[5] Seagate ST410800N mechanism	8669MB	2699.95	*2899.95

PORTABLE DRIVES

Model	Capacity	Internal	**AC Only
APS Q 341[1]	326MB	$299.95	N/A
APS Q 514[1]	491MB	379.95	N/A
APS T 504[1]	504MB	399.95	NEW FROM APS 499.95*
APS T 800[1]	773MB	599.95	NEW FROM APS 699.95*

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***SR 1000 AC only enclosure*

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Model	Capacity	RAID LEVEL	Price
ARRAID S2/5400[5]	2GB	Striped (0)	$1399.95
ARRAID M1/7200[5]	1GB	Mirrored (1)	1599.95
ARRAID S2/7200[5]	2GB	Striped (0)	1599.95
ARRAID M2/7200[5]	2GB	Mirrored (1)	2499.95
ARRAID S4/7200[5]	4GB	Striped (0)	2499.95
ARRAID S8/7200[5]	8GB	Striped (0)	3299.95

DATerm™ patent pending
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Internal drives for Quadra 800 and Centris 610 available
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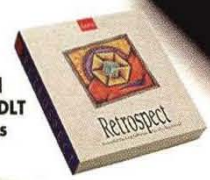

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1-5 Denotes length of manufacturer's warranty in years

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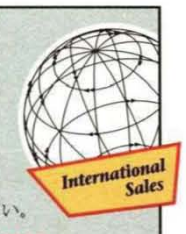

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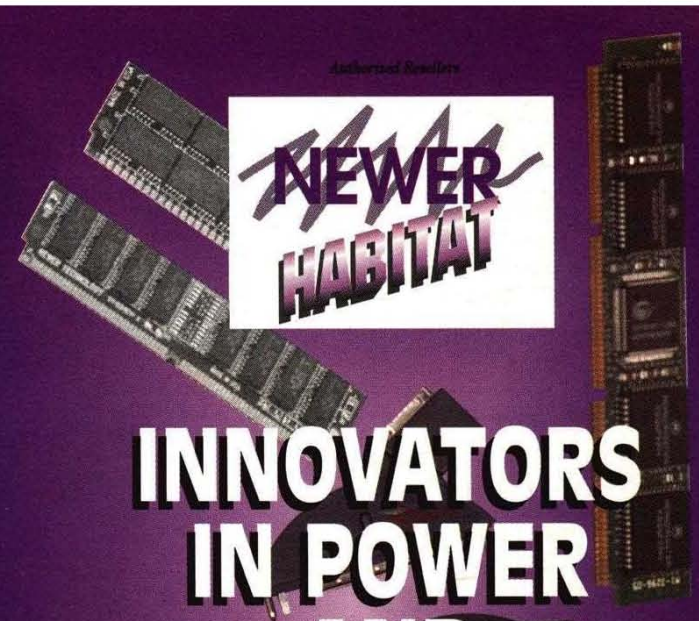

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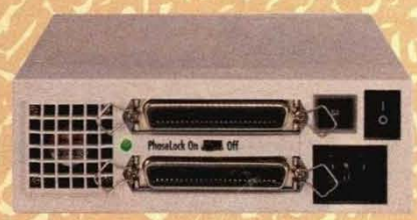

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540 mb	DT-540LT	Quantum	3.5"	11ms	4500	2 yrs	$235	$310
730 mb	DT-730LT	Quantum	3.5"	11 ms	4500	2 yrs	$275	$350
1.0 gb	DT-1080AL	Quantum	3.5"	9.5 ms	7200	5 yrs	$590	$665
1.05 gb	DT-31230	Seagate	3.5"	9.0 ms	5400	5 yrs	$545	$620
2.0 gb	DT-3221	Micropolis	3.5"	8.5 ms	7200	5 yrs	$950	$1,025
2.0 gb	DT-32150	Quantum	3.5"	8.0 ms	7200	5 yrs	$990	$1,065
2.0 gb	DT-2490	HP	3.5"	9.0 ms	6400	5 yrs	$1,100	$1,185
2.1 gb	DT-32550	Seagate Barracuda	3.5"	8.0 ms	7200	5 yrs	$1,050	$1,125
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4.3 gb	DT-15150W	Seagate Barracuda Wide	3.5"	8.0 ms	7200	5 yrs	$1,599	$1,799
4.3 gb	DT-34300	Quantum	3.5"	8.0 ms	7200	5 yrs	$990	$1,065
9.0 gb	DT-1991	Micropolis	5.25"	12 ms	5400	5 yrs	$2,275	$2,375
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2.0 gb	DT-3221AV	Micropolis	3.5"	8.5 ms	7200	5 yrs	$1,000	$1,080
2.1 gb	DT-32550AV	Seagate Barracuda	3.5"	8.0 ms	7200	5 yrs	$1,100	$1,180
4.3 gb	DT-3243AV	Micropolis	3.5"	8.5 ms	7200	5 yrs	$1,395	$1475
4.3 gb	DT-15150AV	Seagate Barracuda	3.5"	8.0 ms	7200	5 yrs	$1,550	$1,630
9.0 gb	DT-1991AV	Micropolis	5.25"	12 ms	5400	5 yrs	$2,499	$2,599
9.0 gb	DT-410800AV	Seagate Elite 9	5.25"	11 ms	5400	5 yrs	$3,150	$3,250

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4-8 gb	HP-1533A	DDS-2	$1,360
5-10 gb	Exabyte-8505	8mm	$2,275
10-20 gb	DLT-2000	DLT	$3,599

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1x36 - 4 MB	$179
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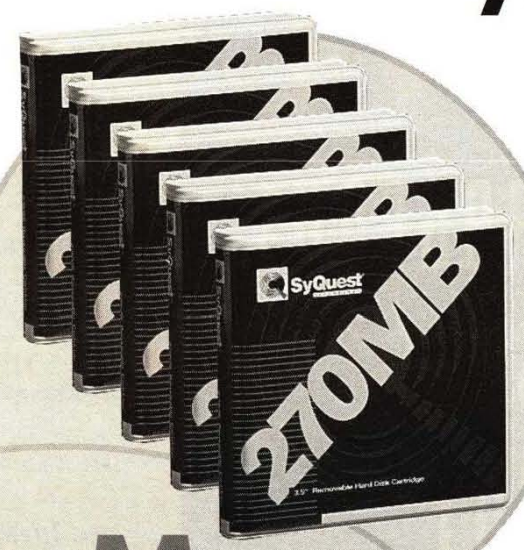

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PowerBook Memory

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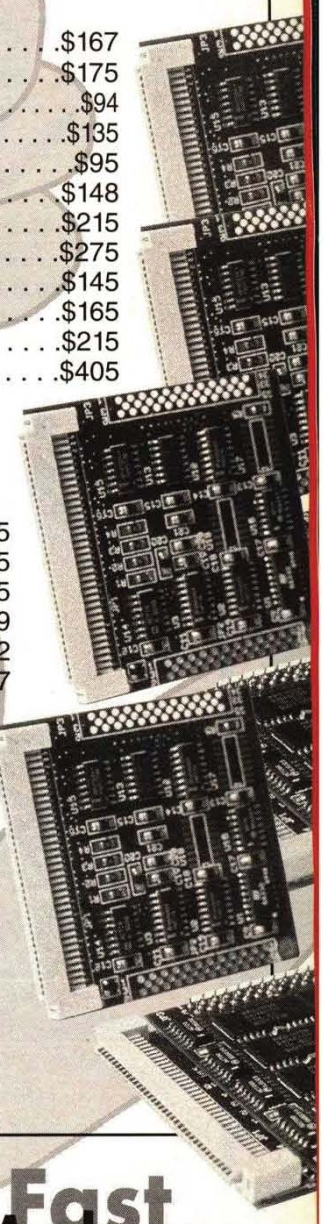

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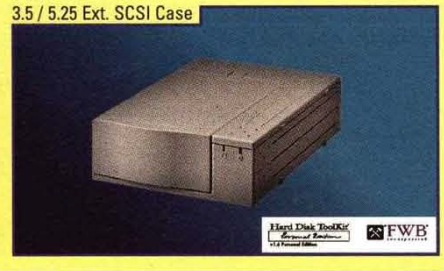

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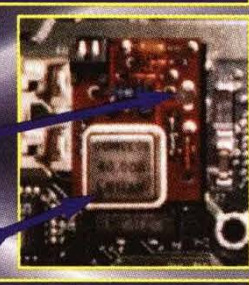

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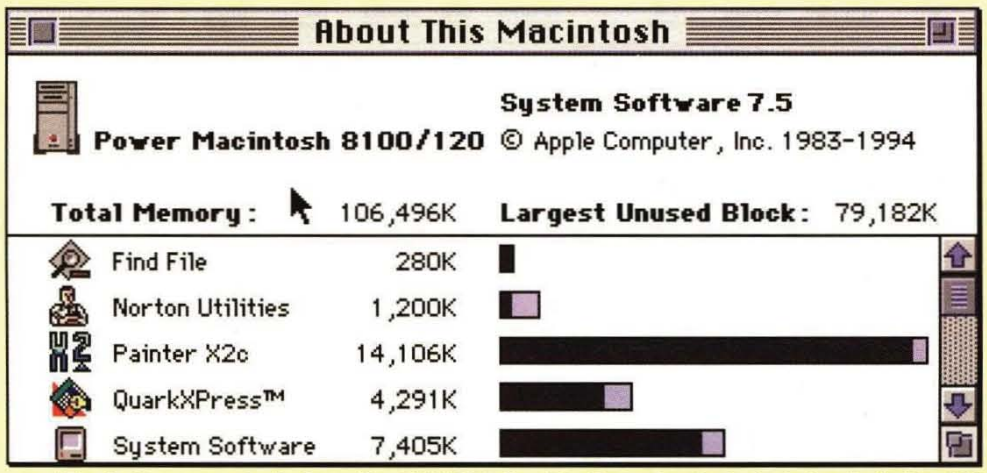

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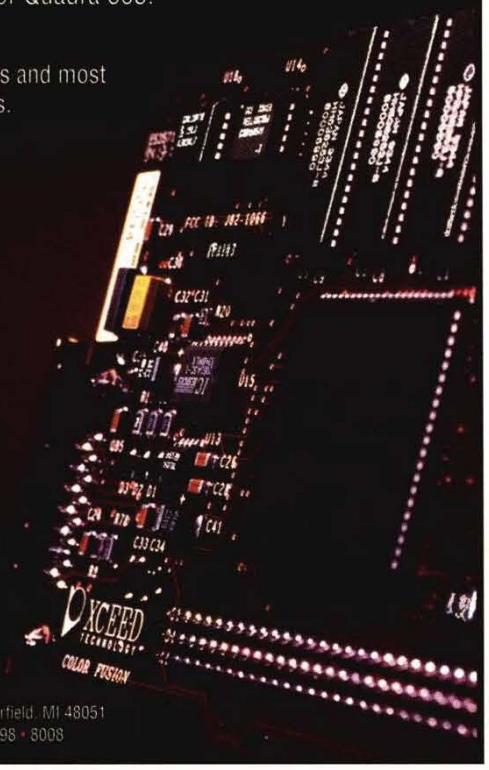

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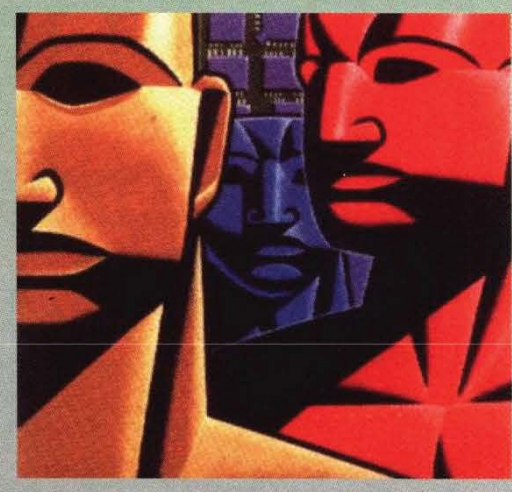

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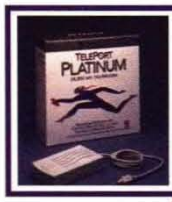

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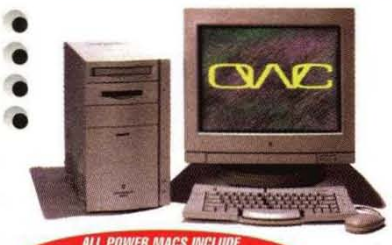

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IBM	Speed	Internal	External	dsc Turbo
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ScanMaker IIHR	**600 dpi flatbed**	**$828**
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NEC 17XE	17in, .25mm, 1280x1024	$979
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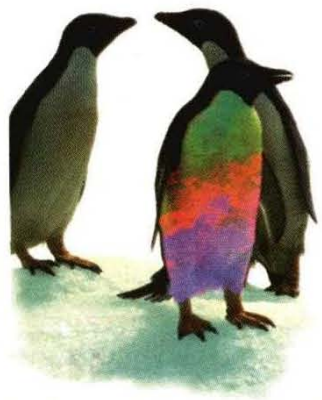

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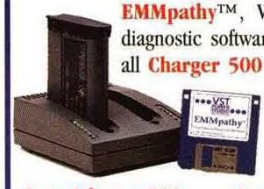

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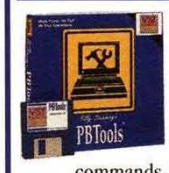

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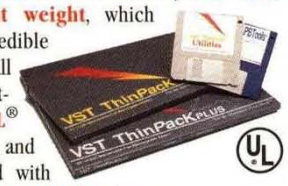

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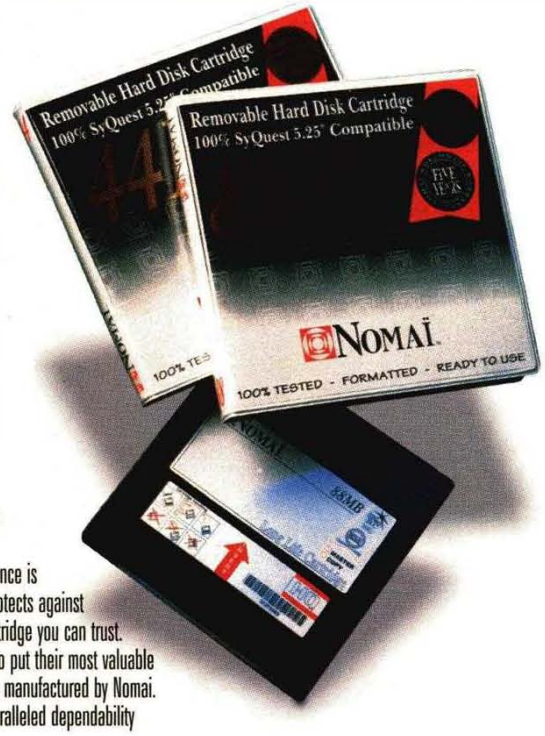

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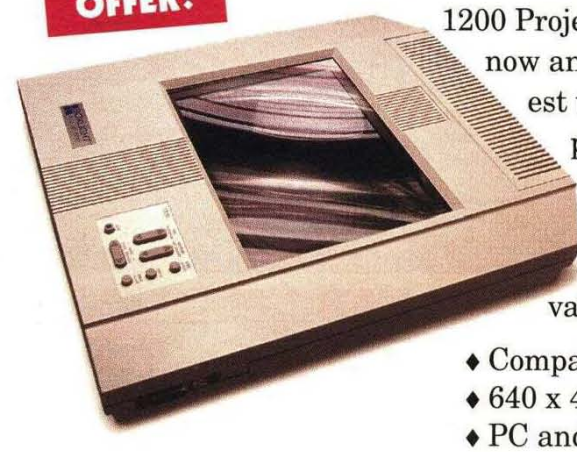

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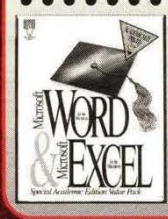

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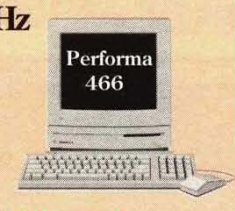

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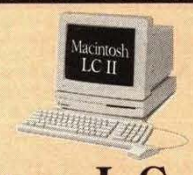

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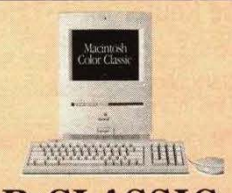

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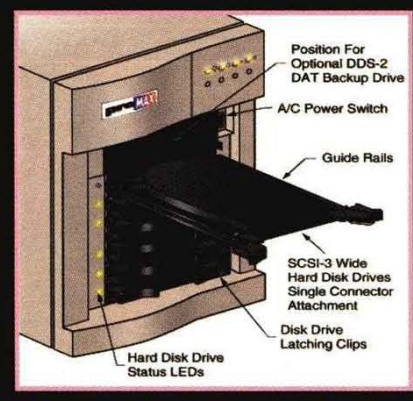
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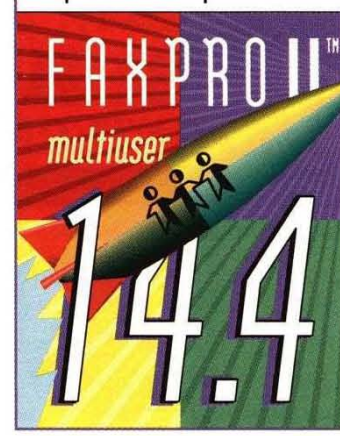

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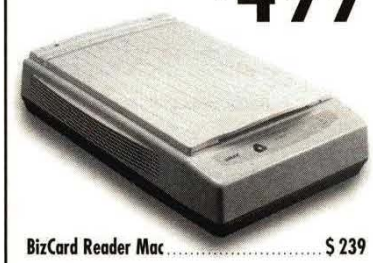

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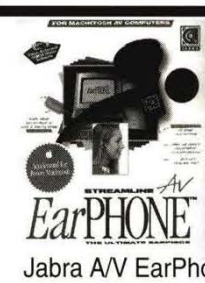

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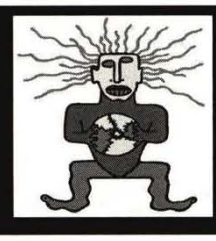

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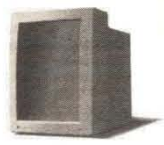

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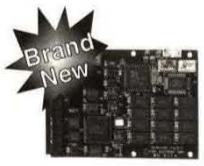

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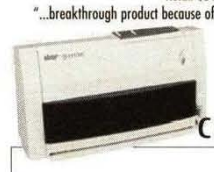

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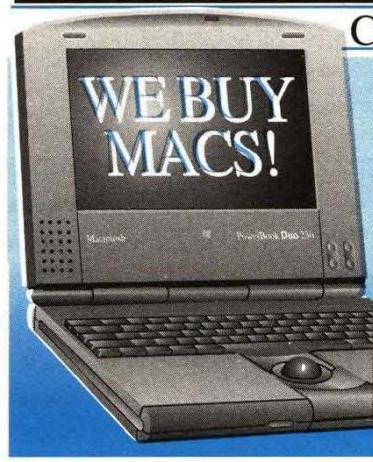

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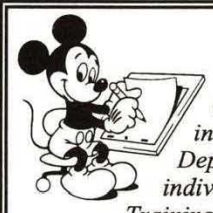

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Classified

PCI Macs

From Page 1

PCI lineup, pricing and configuration for the 9500 are not final and are subject to change before introduction, sources said.

Both 9500 models will come in Apple's new publishing chassis — taller than the 8100 and containing six PCI slots and a 512-Kbyte Level 2 cache. Neither of the 9500 configurations offers built-in graphics. Instead, a PCI video card must be purchased, either separately or bundled with the Mac. Apple is expected to offer an accelerated 24-bit video card, code-named Surfer, that was co-developed with Radius Inc. and is being built by ATI Technologies Inc.

The 9500 will reportedly be the reference machine for the first PCI Macs built by vendors other than Apple. Sources said a number of licensees are considering cloning the design.

▶ **Power Mac 8500.** On Aug. 7, during the week of Macworld Expo in Boston, Apple will roll out four additional PCI models, sources said. While none offers the flexibility or speed of the 9500, some will come with Apple's next-generation digital video technology.

The PCI Power Macs at a glance

PRODUCT	CODE NAME	STREET PRICE	CPU	MHZ	L2 CACHE KBYTES	RAM MBYTES	PCI SLOTS	VRAM MBYTES
Power Mac 7200/75	Catalyst	$1,400	601	75	Optional	8-256	3	1
Power Mac 7200/90	Catalyst	$1,600	601	90	Optional	8-256	3	1
Power Mac 7500/100	TNT	$2,200	601	100	Optional	8-512	3	2
Power Mac 8500/120	Nitro	$3,400	604	120	256	16-512	3	2
Power Mac 9500/120	Tsunami	$4,000	604	120	512	16-768	6	0
Power Mac 9500/132	Tsunami	$4,600	604	132	512	16-768	6	0

The Power Mac 8500/120, also known as Nitro, should cost about $3,400. The 120-MHz 604-based computer will reportedly have three PCI slots, a 256-Kbyte Level 2 cache, 2 Mbytes of video RAM and will come in a case nearly identical to the 8100.

With the addition of the 604 processor, which offers a 50 percent speed boost over a PowerPC 601 running at the same clock rate, and the performance advantages of the PCI Mac's architecture, a 100-MHz 604 Power Surge Mac would double the overall performance of a Power Mac 8100/100, sources said.

▶ **Power Mac 7500.** Code-named TNT, the Power Mac 7500/100 will form the high end of the 601-based systems and will come with a 100-MHz processor. Pricing on the three-slot model is expected to start at about $2,200 with 2 Mbytes of VRAM and an optional Level 2 cache. The 7500 will introduce a new three-slot desktop enclosure, sources said.

According to sources, the main design goal of the Power Surge Macs is to take full advantage of the PowerPC, improving the performance of both native and emulated applications. On the 7500 and 8500 this has meant the inclusion of near broadcast-quality video of 30 frames per second at 320 by 240 pixels (see story, Page 1).

Both the 8500 and 7500 will support 24-bit video on displays up to 21 inches. Their back panels will provide stereo sound-in and -out, as well as S-video and composite video-in jacks; the 8500 also has an S-video-out port.

▶ **Power Mac 7200.** For the more cost-conscious buyer, Apple will offer two nearly identical 601-based Macs, the Power Mac 7200/75 and 7200/90, both code-named Catalyst. The 75-MHz 7200/75 is expected to cost about $1,400 and will come with 1 Mbyte of VRAM; a Level 2 cache will be optional.

The 7200/90 is nearly identical to its 75-MHz sibling but for its 90-MHz 601. It will sell for roughly $1,600, sources said, and as with the 7200/75, it will be possible to upgrade the 7200/90 to a 7500/100 by swapping out the logic board. Both 7200 models come in the same chassis as the 7500.

With the exception of the 7200s, all PCI Macs will have upgrade options to a faster processor by swapping out a CPU daughtercard. According to sources, Apple has designed the logic boards to support CPUs up to a 150-MHz PowerPC 604.

▶ **Configuration and availability.** The 9500, 8500, 7500 and 7200/90 will reportedly come with at least 16 Mbytes of RAM and a 500-Mbyte hard disk; all six will include a quadruple-speed CD-ROM drive. In addition, the 7500, 8500 and 9500 will all offer internal Fast SCSI interfaces, sources said.

Apple is expected to have all of the new Macs available for purchase at the time of introduction. However, sources said availability of some models, such as the 9500/132, may be constrained for a few months because of a shortage of the higher-clock-rate PowerPC 604 chip.

Apple declined to comment. □

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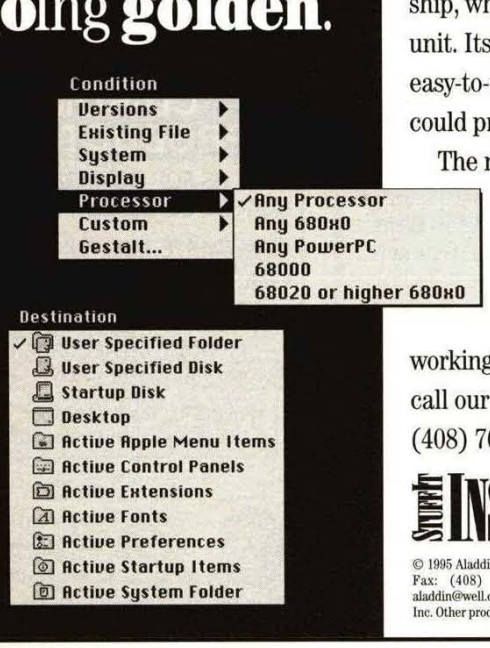

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OpenDoc

From Page 1

Microsoft Corp., of course, will not attend the OpenDoc party. That excludes the leading word processor and spreadsheet, Microsoft Word and Excel. These programs are the leaders in implementing OLE on the Mac, however, so they are likely to be the crucible of OpenDoc-OLE compatibility on this platform.

Some developers are not counting on smooth coexistence between the two APIs. Curtis Lee, spokesman for West Des Moines, Iowa-based CE Software Inc., said, "We're straddling OLE and OpenDoc to see who comes out on top" before choosing a standard for future products in its TeamVision line.

Mark McHarry, spokesman for Lotus Development Corp.'s cc:Mail division in Mountain View, Calif., said, "We are planning to implement OpenDoc in Notes and cc:Mail" for the Mac. However, the division is also seriously evaluating OLE 2.0 for its Mac products.

One of the few clear groundswells of early OpenDoc support is among client-server tools. Oracle Corp.'s Power Objects, due to debut this summer, will support OpenDoc in 1996. Gupta Corp.'s SQL-Windows for the Mac will also use OpenDoc components. Novell Inc.'s AppWare will build and use OpenDoc parts, as will Apple and IBM Corp.'s Denali development environment.

Pictorius Inc. has promised OpenDoc for a future version of its Peregrine. ACI US Inc. has already begun experiments with OpenDoc, and developers at Blyth Software Inc. and Jyacc Inc. both said they are already working with the technology.

"We believe that with OpenDoc development, companies can componentize software to make it fully and completely cross-platform," said Paul Harwitz, president of ISIS International Inc. of Los Angeles.

Other small developers disagree. "We write utility and special-purpose applications — something OpenDoc is not particularly helpful for," said Eric Shapiro, president of Rock Ridge Enterprises of Ann Arbor, Mich., who writes OpenDoc developer-training materials for Apple.

Apple is banking on quick adoption of OpenDoc by small companies, but custom programming houses do not seem eager to embrace the technology.

"It seems like a very cool environment — certainly easier to program for and use than OLE," said David Shayer, president of Sentient Software of San Carlos, Calif., and lead developer for Symantec Corp.'s Norton DiskLock. "But both OpenDoc and OLE are inappropriate for the software I write, so I'll be watching this battle from the sidelines."

Others are just waiting for an opening in the market. "I am not developing any OpenDoc parts yet because it is too early for my clients to have any need for OpenDoc," said Adrian Ruigrok, president of RapidEdge Technologies Inc. of Vancouver, British Columbia. "But when OpenDoc is released and a few key foundation applications support [it], then the world will open up to developers like myself." □

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Video

From Page 1

els will boost video-capture rates significantly, up to 320-by-240-pixel, 24-bit video at 30 frames per second, sources said.

Unlike current AV models, which are limited to eight-bit color convolution, the 8500 and 7500 will ship with convolution at all display depths. For international users, the 8500 will support PAL (European) and SECAM (French) as well as NTSC output.

"[The 8500] will open up the industrial-grade video market for training, weddings and home editing," said Neil McManus, executive editor at Digital Media, A Seybold Report in San Francisco. "But there are still plenty of opportunities at the high end for the Radiuses of the world."

According to multimedia producers, the new models' reported lack of timecoding capabilities will still propel "serious production" to third-party solutions. McManus said Apple's exclusion of these technologies was a smart move, since they would significantly raise prices.

Independent video producer Chris Cave, president of Cave Art Inc. of New York, said, "Both models will play in multimedia and in video-production studios." The built-in capabilities of the new models will be more than sufficient for prototyping work and off-line editing, he said. "Some clients are not willing to pay for the absolute pristine job. There's no true definition for broadcast quality — it's totally subjective."

Other producers said raw processor speed is most important in entry-level editing. "Ninety percent of production time is editing; getting [Adobe] Premiere to move two or three times faster would be a fantastic thing," said Ming Lau, president of BlueWaters Production of San Francisco. "It should be 20 times [faster]."

The entire design of Apple's next-generation multimedia machines is optimized for video performance, sources said. For example, the models will include a hardware cursor or driver-level support for displaying the cursor. This feature will allow QuickDraw to ignore the cursor during processor-intensive tasks such as video capture.

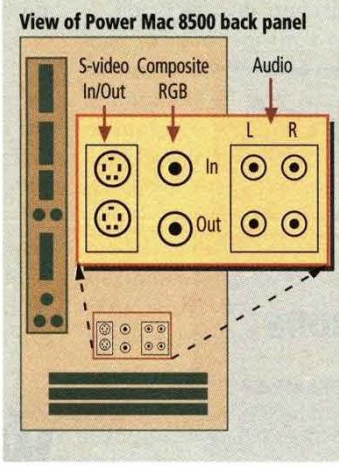
Sources said video performance on the PCI-based models will also benefit from Apple's Descriptor Based Direct Memory Access. The memory scheme is pervasive in the new Macs and offers a single model for all types of I/O, including audio, video, storage and serial data.

"Apple's real-mode [direct memory access] has all the bells and whistles," said Gary Hoffman, chairman of 1394 Trade Association and CEO of Skipstone Inc. of Austin, Texas. Unlike the Intel-standard PC market's many DMA methods, he said a single robust DMA standard will let Mac vendors reduce development costs.

Apple declined to comment. □

Ports give berth to video power

View of Power Mac 8500 back panel



POWER MAC 8500	POWER MAC 7500	QUADRA 840AV
24-bit video input and dual-channel output	24-bit video input	16-bit video input
Capture 30 fps at 320 by 240 pixels	Capture 30 fps at 320 by 240 pixels	Capture 10 fps at 320 by 240 pixels
24-bit display	24-bit display	16-bit display
24-bit convolution	24-bit convolution	8-bit convolution
Independent pixel depth for capture/display	Independent pixel depth for capture/display	Pixel depth linked for for capture/display
1:4 zoom	1:4 zoom	n/a
Hardware cursor	Hardware cursor	n/a

Omnis

From Page 1

proprietary data-manipulation commands in favor of SQL commands that are fully compliant with the rules from the American National Standards Institute.

Sources said the upcoming Version 4.0 will continue to include Blyth's data-manipulation commands, but applications written to use them will not work with next year's versions. However, programs written to use Omnis' current built-in SQL will run. "This is going to break a lot of existing applications," one source said.

In the rest of the application-development environment, the company reportedly hopes to add object-oriented programming capabilities without breaking current applications. Sources said Version 4.0 will treat new code objects as plug-ins that will not inherit characteristics. Later, Blyth expects to include object classes, and users will be able to define object attributes.

Versions after 4.0 will also reportedly allow for multiple instances. For example, users will be able to open multiple copies of the same window. Currently, Omnis users can't easily open copies of the same window format at the same time. Likewise, Blyth intends to allow users to work on multiple records at once; users today must leave a record to work on another.

The company is purportedly working on allowing developers to split an application into more than one logical task. So, for example, users will be able to print a report while continuing to work in other program areas.

Sources said current Omnis applications will be converted into the new version when they are opened in the upcoming releases. Once converted, the applications will not be able to be used with earlier runtime versions.

Omnis users generally approved of the expected additions. One developer said that as other companies, such as Powersoft Corp. and Oracle Corp., push ahead with their object-oriented tools, Blyth has to keep pace.

"They are doing the things they have to do that let them market it as object-oriented, but it is still Omnis," said the developer. "Going object-oriented will solve the [code] reusability problem, and it will give them a check box."

Blyth was not available for comment. □

Visual

From Page 1

According to Sigler, the Mac version of FoxPro will be a full member of Microsoft's Visual family of development tools and will support OLE automation and OLE controls.

Visual FoxPro is intended to be a development tool for database applications, Sigler said, "so we give up some things in the ease-of-use category to make our product very extensible and very powerful."

Sigler said, however, that ease of use is a top priority for Access, another member of Microsoft's Visual family. While users can develop with the company's Windows-based Access database, "ease of use is the No. 1 thing we focus on." Visual Basic, another family member, is a general-purpose tool for Windows development, Sigler said. Microsoft also offers Visual C++, which the company defines as a higher-performance, more flexible development tool.

Jon Roskill, director of marketing for Visual Basic, said Microsoft is building its tools around OLE. This year, Roskill said, Microsoft will include OLE controls in its Visual products. However, he said, Microsoft has no plans to port Access or Visual Basic to the Mac.

Roskill said corporate users would be satisfied if Visual Basic and Access users could develop applications on the Windows side and deploy them on the Mac.

"People think that we're Microsoft and we just automatically do everything, but that's not the case," he said. "We tried very hard to figure out the top things we're going to be working on, and up to now, the Mac pieces just haven't been getting done."

He said Visual Basic comprises a set of related components and all would have to be ported. While the Visual Basic language is available today, he said, Microsoft would still need to port the database engine Visual Basic shares with Access and rewrite the report writer, forms engine and support for OLE controls.

Roskill said Mac developers desperately seeking cross-platform solutions need look no further than Visual FoxPro. "It's not going to be a shock for a VB programmer to pick up FoxPro," he said. □

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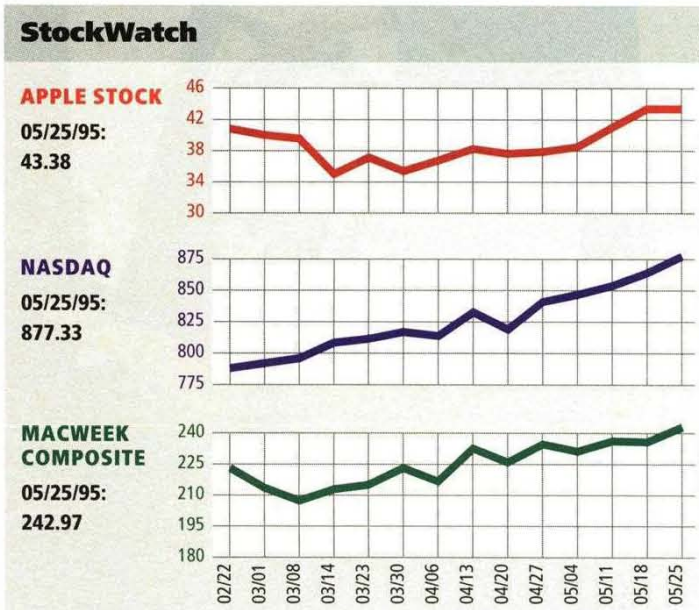

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JUNE 5

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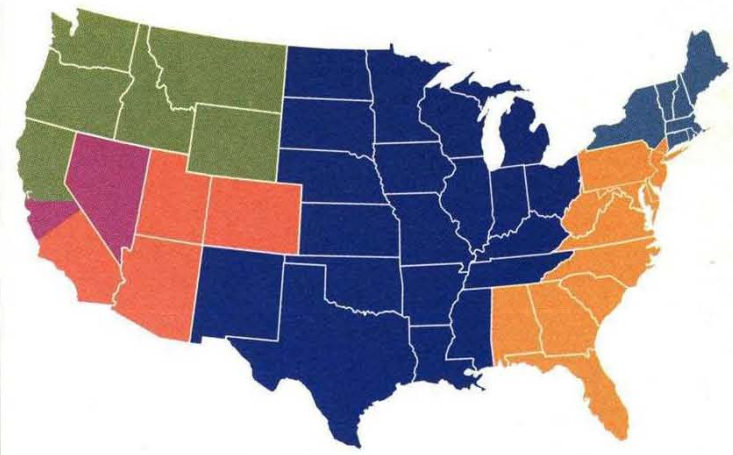
ZiffNet/Mac This Week

Test-driving on the information highway

If you're eyeing a software purchase but would like some hands-on experience before shelling out the bucks, there are dozens of vendors willing to accommodate you. In ZiffNet/Mac's libraries you'll find limited demo versions of the complete Claris product line, Now Up-to-Date and Now Contact, Conflict Catcher, StarNine's PowerTalk mail gateways, and more. On eWorld, go to the MacWEEK area (shortcut: macweek). In ZiffNet/Mac on CompuServe, go to the MacWEEK Forum (go zmc:macweek) and the free MacWEEK News menu (go zmc:mwnews).



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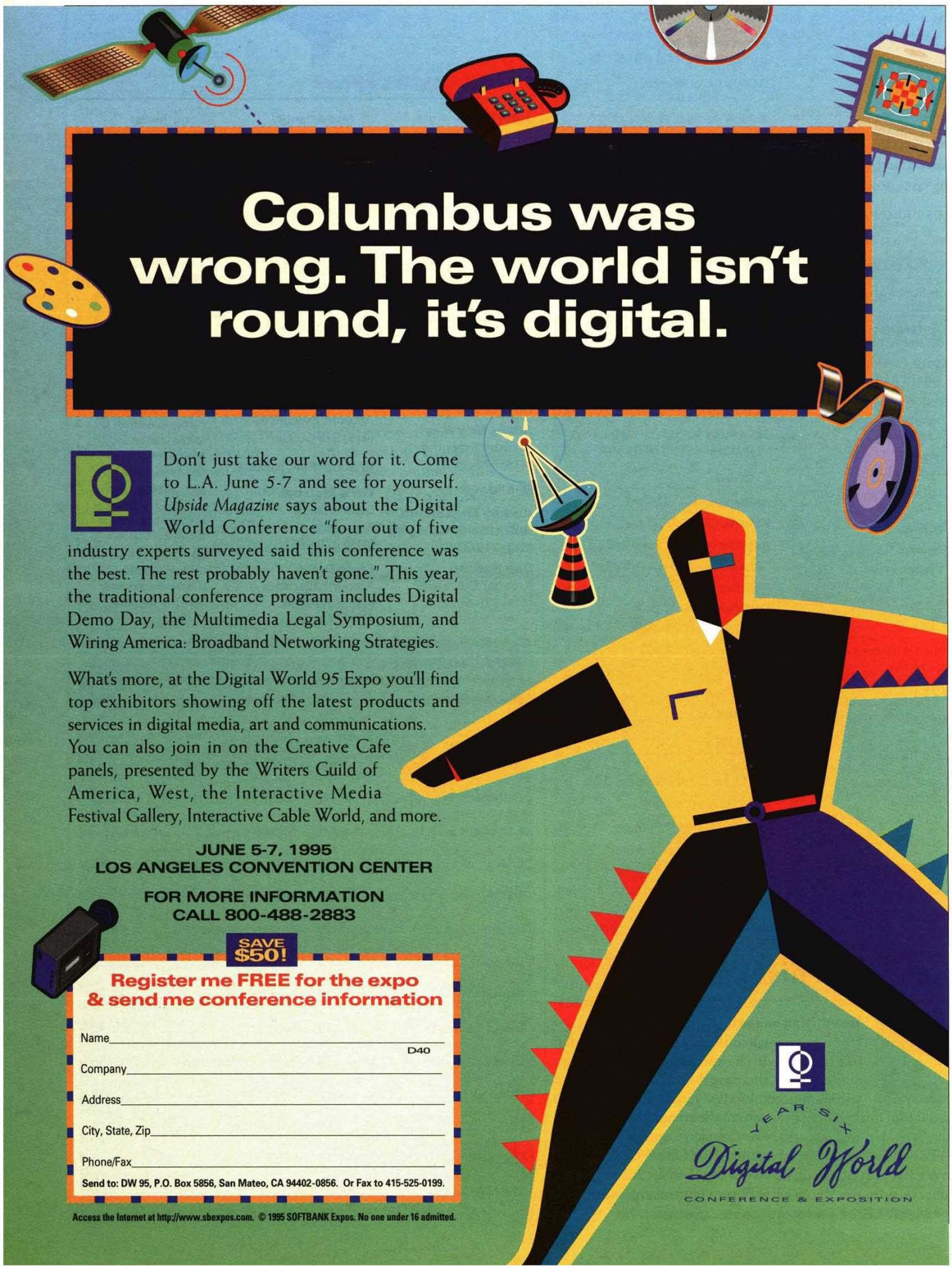
OpenDoc is worth Wang's wrath

You may have noticed that you've been feeling a little defensive lately, and who can blame you? You're not necessarily paranoid just because you find yourself giving in to an urge to protect your valuables, to cover all the bases, to look over your shoulder. Mothers these days know where their children are, regardless of the hour.

Then there are the ever-present lawyers. Throughout the land of late they've become brazen enough to be seen in public sporting broad, anticipatory grins. For many it's because Apple, considered in some quarters to be the reigning king of gratuitous litigation, stands a decent chance of becoming the object of a legal maneuver itself.

Wang Laboratories Inc., late of bankruptcy court and newly invigorated by a $90 million cash injection courtesy of Microsoft, has quietly positioned itself to protect the considerable value it places on its OLE patents.


Columbus was wrong. The world isn't round, it's digital.
Don't just take our word for it. Come to L.A. June 5-7 and see for yourself. Upside Magazine says about the Digital World Conference "four out of five industry experts surveyed said this conference was the best. The rest probably haven't gone." This year, the traditional conference program includes Digital Demo Day, the Multimedia Legal Symposium, and Wiring America: Broadband Networking Strategies.
What's more, at the Digital World 95 Expo you'll find top exhibitors showing off the latest products and services in digital media, art and communications. You can also join in on the Creative Cafe panels, presented by the Writers Guild of America, West, the Interactive Media Festival Gallery, Interactive Cable World, and more.
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Hidden processes

Few realize that the deal that gave Microsoft access to Wang's imaging and workflow software for Windows serves mainly as a cover for a payoff. Microsoft, all good children know, submitted to being jacked up by Wang over those patents. Flush with both success and fresh revenue, Wang is looking for new conquests, and sources report that Apple and its CI Labs OpenDoc cohorts are in Wang's legal sights.

As almost any high-tech PR professional will readily tell you, OLE and OpenDoc are different animals, so a comparison between the Microsoft settlement and the threat to OpenDoc is not a textbook case example of parallelism. But if Microsoft was turned out so easily, maybe the OpenDoc crowd would rather play ball than risk losing its hard-earned momentum.

To hear the Knife tell it, however, that momentum may be stronger than some would have you believe. Just this week, for example, he's begun receiving reports that Compaq is ready to lend its considerable prestige to CI Labs. That's particularly encouraging, because if Compaq signs on, we can be assured that the general viewing public, not just PR flacks, will soon know what OpenDoc is.

Tightly held transport

If you are of the privileged class, you already have a pre-production Power Mac 9500, and your office is already prepped for the imminent arrival of production units. Among the many benefits of belonging to that group is that Apple's upcoming fastest Mac yet will run a special version of the OS that includes Open Transport 1.0. Users of lesser Macs will have to wait until they find themselves broiling in Boston to get Version 1.1, which will support the rest of the then-shipping PCI and 680x0 models.

But before you become unbearably smug at your accidental good fortune you should note that Open Transport 1.0 is hand-tooled for 10-Mbps Ethernet, not the 100-Mbps variety that you know you deserve. For that, you'll have to stand in line with the great unwashed for Version 1.1, which will be fully functional at high speeds.

A wide cup of java

Now that Sun's new Hot Java is ready to roll, those who believe in one standard for animated Web pages are enjoying a new sense of well-being. That will fade, of course, once they hear that Macromedia is working with one of the major Web vendors to develop a product that will let users download those hot multimedia files without the fuss, muss and consequential risk of that small Hot Java executable file. □

If you know a tip that meets the Knife's standards, you can soon become a member of the exclusive MacWEEK-mug-owner elite. Just stake your claim at (415) 243-3544, fax (415) 243-3651, Internet (mac_the_knife@macweek.ziff.com), AppleLink (MacWEEK) or CompuServe/ZiffNet/Mac.

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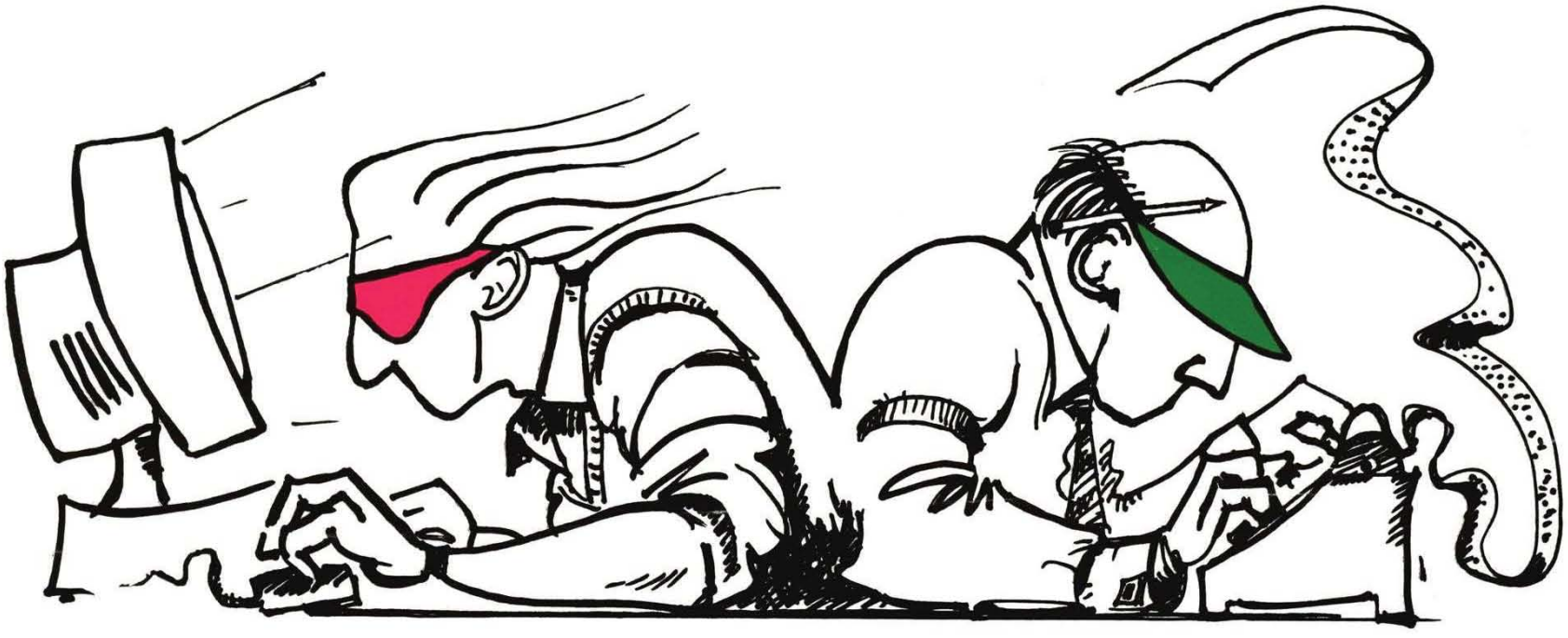

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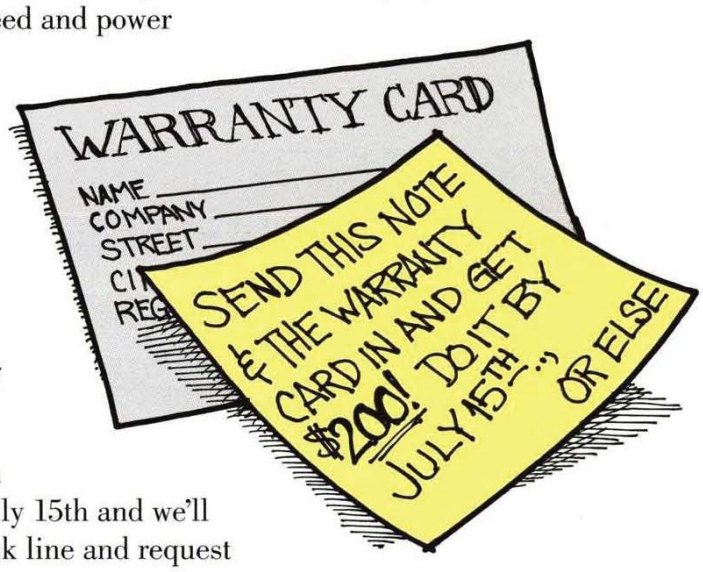

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